ROYAL
ASIATIC
SOC.

1920=29

LIBRARY

Digitized by Arya Samaj Foundation Chennai and eGangotri

Digitized by Arya Samaj Foundation Chennai and eGangotri

Digitized by Arya Samaj Foundation Chennai and eGangotri

Digitized by Arya Samaj Foundation Chennai and eGangotri

गुरुकुल कांगड़ी विश्वविद्यालय, हरिद्वार
पुस्तकालय

विषय संख्या
पुस्तक संख्या
आगत पंजिका संख्या

पुस्तक पर किसी प्रकार का निशान लगाना वर्जित है। कृपया १५ दिन से अधिक समय तक पुस्तक अपने पास न रखें।

112529

R
950.5
L 84 I
92-29
942

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

942

सन्दर्भ ग्रन्थ
REFRENCE BOOK

यह पुस्तक वितरित न की जाय
NOT TO BE ISSUED

स्टाक नवीनीकरण १९८४-१९८५

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ROYAL ASIATIC SOCIETY

OF

Great Britain and Ireland

CHECKED 1973

INDEX

OF THE

CONTENTS OF THE JOURNAL

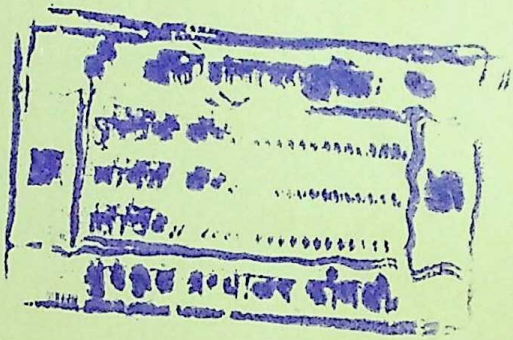
FOR THE DECADE

1920 TO 1929

PUBLISHED BY THE SOCIETY
74 GROSVENOR STREET, LONDON, W.1

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CONTENTS

Titles of Articles and Miscellanea 1

List of Plates 12

Index of Authors, Subjects, and Reviews 13

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Revised Price List. Oct., 1933.

ROYAL ASIATIC SOCIETY'S PUBLICATIONS

ON SALE AT THE ROOMS OF THE SOCIETY

74 GROSVENOR STREET, LONDON, W. 1

ORIENTAL TRANSLATION FUND

NEW SERIES

8vo.

(1–5) REHATSEK (E.). Mīr Khwānd's "Rauẓat-us-Safā" or "Garden of Purity". 1891 to 1894. 12*s*. 6*d*. a volume.

(6) TAWNEY (C. H.). The Kathā Koṣa. 1895. 12*s*. 6*d*.

(7) RIDDING (Miss C. M.). Bāṇa's Kādambarī. 1896. 12*s*. 6*d*.

(8) COWELL (E. B.) and THOMAS (F. W.). Bāṇa's Harṣa Carita. 1897. Reprinted. 1929. 12*s*. 6*d*.

(9) CHENERY (T.). The first twenty-six Maḳāmāta of al Ḥarīrī. 1898. 1926. 12*s*. 6*d*.

(10) STEINGASS (F.). The last twenty-four Maḳāmāta of al Ḥarīrī. 1898. 12*s*. 6*d*.

(11) GASTER (M.). The Chronicles of Jerahmeel; being a collection of the most ancient Biblical legends translated for the first time from the unique Hebrew MS. in the Bodleian, with an introduction, full of literary parallels, copious index and five facsimile reproductions of the Hebrew MS. 1899. 12*s*. 6*d*.

(12) DAVIDS (Mrs. Rhys). The Dhamma Sangaṇi. 1900. Reprinted. 1923. 12*s*. 6*d*.

(13) BEVERIDGE (Mrs. H.). Life and Memoirs of Gulbadan Begum. 1902, 1927. 12*s*. 6*d*.

(14, 15) WATTERS (T.). On Yuan Chwang's Travels in India, 629–645. Edited by T. W. Rhys Davids and S. W. Bushell. 1904–5. 12*s*. 6*d*. a volume.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(16) WHINFIELD (E. H.) and MĪRZĀ MUḤAMMAD ḲAZWĪNĪ. The Lawā'iḥ of Jāmī. Facsimile of an old MS., with a translation and a preface on the influence of Greek philosophy upon Sufism. 1914. Reprinted, 1928. 7*s*. 6*d*.

(17) BARNETT (L. D.). Antagaḍa-dasāo and Aṇuttaroavvāiya-dasāo. From the Prakrit. 1907. 6*s*. 6*d*.

(18) KEITH (A. Berriedale). The Sāṅkhāyana Āraṇyaka. 1908. 6*s*. 6*d*.

(19, 22). ROGERS (A.) and BEVERIDGE (H.). Memoirs of Jahāngīr. Translated. Vol. I, 1909. Vol. II, 1914. 12*s*. 6*d*. a volume.

(20) NICHOLSON (R. A.). The Tarjumān al-Ashwāq of Ibn al-'Arabī. Text and Translation. 1911. 7*s*. 6*d*.

(21) WARDROP (Miss M.). The Man in the Panther's Skin. By Shot'ha Rust'haveli. 1912. 12*s*. 6*d*.

(23) WARDROP (O.). Visramiani. The Story of the Loves of Vis and Ramin. A romance of Ancient Persia. Translated from the Georgian Version. . 1914. 12*s*. 6*d*.

(24) UI (H.). Vaiśeṣika Philosophy, according to the Daśapadārtha-Śāstra. Chinese Text and Translation. Edited by F. W. Thomas. 1917. 7*s*. 6*d*.

(25) SALMON (W. H.). The Ottoman Conquest of Egypt from the Arabic Chronicle of Ibn Iyās. 1921. 5*s*.

(26) GASTER (M.). The Asatir, or The Samaritan Book of the "Secrets of Moses." 1927. 12*s*. 6*d*.

(27) MARGOLIOUTH (D. S.). The Table-talk of a Mesopotamian Judge, being the first part of the Nishwār al-Muhāḍarah or Jāmi' al-Tawārīkh of Abu 'Alī al-Muhassin al-Tanūkhī (*text*). Edited from the Paris MS. 1921. 12*s*. 6*d*.

(28) MARGOLIOUTH (D. S.). Translation of the above. 1922. 12*s*. 6*d*.

(29) MILLER (W. M.). Al-Bâbu 'L-Ḥâdî 'Ashar. A Treatise on the Principles of Shî'ite Theology by Ḥasan B. Yûsuf B. 'Alî Ibnu'l-Muṭahhar al-Ḥillî. Translation. 1928. 10*s*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(30) STEPHENSON (J.). The Zoological Section of the Nuzhatu-l-Qulūb of Ḥamdullāh al-Mustaufī al-Qazwīnī. Edited, translated, and annotated. 1928. 15*s.*

(31) JÓRGENSEN (HANS.). Vicitrakarṇikāvadānoddhṛta. Nevārī Text and Translation. 1931. 12*s.* 6*d.*

ASIATIC SOCIETY MONOGRAPHS

8vo.

(1) GERINI (G. E.). Researches on Ptolemy's Geography (Further India and the Indo-Malay Peninsula). 1909. 15*s.*

(2) WINTERNITZ (M.). Catalogue of South Indian Sanskrit MSS. belonging to the R.A.S., with an Appendix by F. W. Thomas. 1902. 5*s.*

(3) HIRSCHFELD (H.). New Researches into the Composition and Exegesis of the Qoran. 1902. *Out of print.*

(4) DAMES (M. Longworth). The Baloch Race. 1904. 4*s.*

(5) LE STRANGE (G.). Mesopotamia and Persia in the Fourteenth Century A.D., from the Nuzhat-al-Ḳulūb of Ḥamd-Allāh Mustawfī. 1903. *Out of print.*

(6) BROWNE (E. G.). Chahár Maqála of Nidhámí-i-'Arúḍí-i-Samarqandí. 1899. *Out of print.*

(7) CODRINGTON (O.). A Manual of Musalman Numismatics. 1904. 7*s.* 6*d.*

(8) GRIERSON (G. A.). The Piśāca Languages of North-Western India. 1906. *Out of print.*

(9, 10) DAMES (M. Longworth). Popular Poetry of the Baloches. Text and translation. Two vols. 1907. 15*s.*

(11) SAYCE (A. H.) and PINCHES (T. G.). The Tablet from Yuzgat in the Liverpool Institute of Archæology. 1907. 4*s.*

(12) BAILEY (T. Grahame). The Languages of the Northern Himalayas, being studies in the Grammar of Twenty-six Himalayan Dialects. 1908. *Out of print.*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(13) BAILEY (T. Grahame). Kanauri Vocabulary. 1911. 2*s*. 6*d*.

(14) LE STRANGE (Guy). Description of the Province of Fārs, in Persia, from the MS. of Ibn-al-Balkhī. 1912. 4*s*.

(15) BRANDSTETTER (R.). An Introduction to Indonesian Linguistics, translated by C. O. Blagden. 1916. 7*s*. 6*d*.

(16) PINCHES (T. G.). Babylonian Tablets of the Berens Collection. 1915. 4*s*.

(17) GRIERSON (G. A.) and BARNETT (L. D.). Lallā-Vākyāni. Edit. with translation. 1920. 10*s*.

(18) BAILEY (T. Grahame). Linguistic Studies from the Himalayas. 1915. 10*s*.

(19) GAIRDNER (W. H. T.). Al-Ghazzālī's Mishkāt al-Anwār. A Translation with Introduction. 1924. 5*s*.

(20) PRAN NATH. A Study in the Economic Condition of Ancient India. 1929. 12*s*. 6*d*.

(21) THOMAS (Bertram.). The Kumzari Dialect of the Shihuh Tribe, Arabia, and a Vocabulary. 1930. 2*s*. 6*d*.

PRIZE PUBLICATION FUND

8vo.

(1) HULTZSCH (E.). Prākṛitarūpāvatāra of Simharāja. The Text in Nāgarī characters, with Notes, Introduction and Index. 1909. 5*s*.

(2) BODE (Mrs. M. H.). The Pali Literature of Burma. 1909. 5*s*.

(3) HULTZSCH (E.). The Mēghadūta with Vallabha's Commentary. 1911. 5*s*.

(4) BRAY (D. de S.). The Life-history of a Brāhūī. 1913. 5*s*.

(5) GRIERSON (G. A.). Ishkāshmī, Zēbakī and Yāzghulāmī. 1920. 7*s*. 6*d*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(6) LORIMER (D. L. R.). The Phonology of the Bakhtiari, Badakhshani and Madaglashti Dialects of Modern Persian. 1922. 5*s*.

(7) STCHERBATSKY (Th.). The Central Conception of Buddhism and the meaning of the word Dharma. 1923. 12*s*. 6*d*.

(8) BAILEY (T. Grahame). Grammar of the Shina (Ṣiṇā) Language. 1924. 7*s*. 6*d*.

(9) RANDLE (H. N.). Fragments from Diṅnāga. 1926. 6*s*.

(10) MALALASEKARA (G. P.). The Pali Literature of Ceylon. 1928. 10*s*.

(11) GRIERSON (G. A.). Torwali. An account of a Dardic Language of the Swat Kohistan. 1929. 12*s*. 6*d*.

(12) WOLFENDEN (S. N.). Outlines of Tibeto-Burman Linguistic Morphology. 1930. 15*s*.

(13) IVANOW (W.) A Guide to Ismaili Literature. 1933. 9*s*.

JAMES G. FORLONG FUND

(1) HODSON (T. C.). The Primitive Culture of India. 1922. 6*s*.

(2) GIBB (H. A. R.). The Arab Conquests in Central Asia. 1923. 5*s*.

(3) RICHMOND (E. T.). Moslem Architecture. 623–1516. 1926. 12*s*. 6*d*.

(4) ROSS (E. Denison). Ta'rīkh-i Fakhru'd-dín Mubárak-sháh. Edited from a unique manuscript. 1927. 7*s*. 6*d*.

(5) TRENCKNER (V.). The Milindapañho: the Pali Text. New edition with General Index by C. J. Rylands and Index of Gāthās by Mrs. Rhys Davids. 1928. 12*s*. 6*d*.

(6) ḤASAN (Hādī). Falakī-i-Shirwānī. His Times, Life and Works. 1929. 12*s*. 6*d*.

(7) VARMA (S.). Critical Studies in the Phonetic Observations of Indian Grammarians. 1929. 12*s*. 6*d*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(8) ISEMONGER (N. E.). The Elements of Japanese Writing. 1929. £1 5*s*.

(9) ḤASAN (Hādī). Falakī-i-Shirwānī. Dīwān. 1929. 10*s*.

(10) JUWAYNĪ. Ta'rīkh-i-Jahān-Gushāy of Juwayni, vol. iii. Being a facsimile of a manuscript dated A.H. 690 belonging to Wahīd-ul-Mulk. With an Introduction by Sir E. Denison Ross. 1931. 7*s*. 6*d*.

(11) WINGATE (R. O.) and ROSS (E. Denison). Dialogues in the Eastern Turki Dialect on Subjects of Interest to Travellers (*in the press*).

ORIENTAL ADVISORY COMMITTEE

Report on the Terminology and Classification of Grammar. Oxford University Press. 1930. 1*s*.

Centenary Volume of the Royal Asiatic Society, 1823–1923, compiled and edited by F. E. Pargiter. 7*s*. 6*d*.

Centenary Supplement. 1924. 7*s*. 6*d*.

Decade Index of the Journal of the Royal Asiatic Society, 1920–29. Paper Covers similar to JOURNAL, each 1*s*.; Bound in paper boards, each 1*s*. 6*d*.; Bound in paper boards and interleaved, each 2*s*.

Members are entitled to buy these publications at 25 per cent discount.
2d. in the shilling allowed to the trade.
3d. in the shilling allowed to the trade if paid on purchase or in advance.
4d. in the shilling allowed to the trade for purchase of any one publication to the amount of £10 and upwards and paid on purchase or in advance.

Nett charges for the advertisement of Oriental publications :—

		£	s.	d.
Inside of Cover	Whole page	5	0	0
" "	Half "	2	10	0
" "	Quarter "	1	5	0
On Fly-leaf	Whole "	2	10	0
" "	Half "	1	5	0
" "	Quarter "	0	15	0
Insertion of Loose Sheets	Unfolded—			
	Not exceeding 8 × 5 in.	1	0	0
	Folded	2	0	0

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

पुस्तकालय
गुरुकुल कांगड़ी विश्वविद्यालय
हरिद्वार

Titles of Articles and Miscellanea

in order of publication

1920

To the East of Samatata. 1–19.
Man-istisu, in the Temple of Sara. 21.
Babylonian Ritual and Sacrificial Offerings. 25.
The Aryan Invasion of Northern India: An Essay in Ethnology and History (concluded). 31–48.
The Hittite Language of Boghaz Keui. 49–83.
An Egypto-Karian Bilingual Stele in the Nicholson Museum of the Univ. of Sydney. Pl. 85–95.
Moses B. Samuel of Safed, a Jewish Katib in Damascus. 97.
Kuru-Pancala. 99.
Royal Asiatic Society. 102.
el-Yemen. 121.
Report of the Joint Session of the Royal Asiatic Society, Société Asiatique, American Oriental Soc., and Scuola Orientale, Reale Università di Roma, Sept. 3–6, 1919. 123–162.
A Passage in the Mesha Inscription and the early form of the Israelitish Divine Name. 175.
The Historical Position of Ramananda. 185.
The Kharosthi Alphabet. 193–219.
Invasion of the Panjab by Ardashir Papakan (Babagan), the first Sasanian King of Persia, A.D. 226–41. 221.
Identification of the Ka-p'i-li country of Chinese Authors. 227.
Bar Hebraeus's Spiritual Ancestors. 231.
The Book of the Apple. 232.
Rulers of Gilan. 277–296.
The Origin of the Semitic Alphabet. 297.
Linguistic Affinities of Syrian Arabic. 305–318.
Taxila Inscription of the Year 136. 319.
Assyrian Lexicographical Notes. 325.
The Dates in Merutunga's "Prabandha Chintamani". 333.
A Samaritan Periapt. 343.
Vocal Harmony in Karen. 347.
Jompon. 348.
What is Soma? 349.
The Bantu Languages. 352.
Hiuan-tsang and the Far East. 447.
On the Representation of Tones in Oriental Languages. 453–479.
A Semi-official Defence of Islam. 481.
Sumerian Law Code compared with the Code of Hammurabi. 489–515.
The Shahbandar in the Eastern Seas. 517–533.
A Notice on the Library attached to the Shrine of Imam Riza at Meshed. 535–563.
Tablet of Prayers for a King (?) (K. 2279). 565–572.
An Ethiopic-Falasi Glossary. 573.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Creation-Legend and the Sabbath in Babylonia and Amurru. 583.
Note on the Paris Conference. 590.
The Home of Ramananda. 591.
Abracadabra. 597.

1921

The Portuguese and Turks in the Indian Ocean in the Sixteenth Century. 1–28.
The Honan Relics: a New Investigator and some Results. Pl. 29–45.
Geographical Notes. 47.
A Short Anthology of Guran Poetry. 57–81.
The Minor Friars in China. 83–115.
Sacred Books of the Yezidis. 117.
The Kitab Ma'ani As-si'r by Ibn Qutaiba. 119.
Alphabetical Index to Arabic Tradition. 125.
Babylonian and Hebrew Musical Terms. 169–191.
Some Poems from the Manyoshu and Ryojin Hissho. 193.
'Aziz Koka. 205.
A specimen of Colloquial Sinhalese. 209.
An Ethiopic-Falasi Glossary. 211–237.
The Historical Position of Ramananda. 239.
The Soma Plant. 241.
Rajasekhara on the Home of Paisaci. 244.
Shahbandar and Bendahara. 246.
Errata. 248.
Gujarati Phonology. 329–365.
The Plays of Bhasa. 367–382.
A Loan-tablet dated in the seventh year of Saracos. 383.
Three Assyrian Roots. 389.
Note on an apparently unique Manuscript History of the Safawi Dynasty of Persia. Pl. 395–418.
Note on the Persian Cuneiform Inscriptions. 419.
The Etymology of Dara-i Nur. 421.
Sita's Parentage. 422.
Gujarati Phonology. 504–544.
The Portuguese in India and Arabia between 1507 and 1517. 545.
The Dispersion of the Kurds in Ancient Times. 563.
Assyrian Lexicographical Notes. 573.
The name by which the Assyrian Language was known in the Ancient World. 583.
Note on the Meaning of the Term "The Hundreds" as applied to certain chapters of the Koran. 584.
A Misprint in Bib. Ind. Edition of the Akbarnama and Muntakhab - al - Tavarikh. 585.
Bhasa. 587.

1922

The Portuguese in India and Arabia 1517–1538. 1–18.
The Development of the Land-revenue System of the Mogul Empire. 19–35.
Taxila Silver-scroll Inscription. 37.
Notes on the editions of the Arabic Poets 'Abid ibn al-Abras, 'Amir ibn at Tufail, and 'Amr ibn Qami'a published by Sir C. J. Lyall. 43.
Pictographic Reconnaissances. Pt. IV. 48–75.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Hamm-(Gatau). 77.
The Plays of Bhasa. 79.
Note on the Hathigumpha Inscription. 83.
Satiyaputra of Asoka's Edict No. 2. 84.
Abracadabra. 86.
A Footnote to Manucci. 88.
Journal R.A.S., 1921, p. 393. 91.
The Surrosh K. R. Cama Prize. 91, 588.
Report of the Delegation of the R.A.S. to the American Academy of Arts and Sciences, Boston, 5th–7th Oct., 1921. 93.
An Unidentified Territory of Southern India. 161–175.
Hittite Legend of the War with the Great Serpent. 177–190.
Notes on the Phonology of Southern Kurmanji. 191–226.
The Provision of Funds for the East India Co.'s Trade at Canton during the eighteenth century. 227–254.
The Kufic Inscriptions of Kisimkazi Mosque, Zanzibar, 500 H. (A.D. 1107). Pls. 257.
A Cappadocian Seal. 265.
The Oropus Title of Carchemish. 266.
Dara-i-Nur. 269.
Epigraphical Notes. No. 1: A Persian Seal Cylinder. 270.
Fifty Years of the Indian Antiquary. 273.
University of London Institute of Historical Research. 274.
Five Questions in the History of the Tughluq Dynasty of Dihli. 319–372.
The Historical Position of Ramananda. 373.
Spontaneous Nasalization in the Indo-Aryan Languages. 381.
Notes on some Babylonian Rulers. 389.
More Notes on the Eight Immortals. 397–426.
The Name of Carchemish. 427.
Baghdad. 429.
The Location of Isin. 430.
Wahm in Arabic and its Cognates. 505–521.
Remarks on the Text of the Prose Refutations of S. Ephrem. 523.
Note on the Padmasana. 533.
The Decipherment of the Hittite Hieroglyphic Texts. 537–572.
A Chinese Court of Justice. 573.
Psalm cxxx. 576.
Devesvara. 577.
Letters of Mahru. 579.
The Oropus or Europus Title of Carchemish. 580.

1923

Tabaqat of Ansari in the Old Language of Herat. 1–34, 337–382.
The Introduction of the Cadmeian Alphabet into the Aegean World in the Light of Ancient Traditions and Recent Discoveries. 25–73, 169–207.
Further Notes on Baburiana. 75.
Ornamental Kufic. 83.
Mount Delly, the Rat Hill. 83.
John de Laet and Francisco Pelsartt. 85.
The Word Ma 'Une. 87.
Petenikas of Asoka's Rock Edict XIII. 88.
Vamba-Moriyas. 93.
Hajji Mirza Hasan-i-Shirazi on the Nomad Tribes in the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Fars-Nameh-i-Nasiri. 209–231.
Some Notes on Modern Babylonia. Pl. II–IV. 233.
The Abhidhamma-Pitaka and Commentaries. 243.
The Chaldean Kings before the Flood. 251.
Suresvara and Mandana-Misra. 259.
Syriaque et Nabateen. 263, 417.
The Subordinate Imperative in Persian. 264.
Are Nairs Sudras ? 268.
La Légende de Buddhaghosa. 268.
Pictographic Reconnaissances. Pt. V. 362.
The Name Kurd and its Philological Connections. 393, 403.
Further Arabic Inscriptions on Textiles (II). Pl. V–VI. 405.
The Classical Name of Carchemish. 409.
The Identification of Satyaputra. 411.
The Anthropos Alphabet. 415, 617.
Note on Arab Proverbs. 419.
The Agni-Purana and Bhoja. 537–549.
Dr. Hoernle's MS. Papers. 551.
The Hittite Version of the Epic of Gilgames. 559–571.
The Great Salients of the Mosque of al-Hakim at Cairo. Pl. VII–X. 573–584.
Some Remarks on the Hindu Drama. 585–608.
The Kosar of Tamil Literature and the Satiyaputra of the Asoka Edicts. 609.
Note sur une tapisserie arabe du viiie siècle. Pl. 613.
Tamil *pambu*, Sanskrit *papa*. 619.
Mongoose. 619.
The Constellation Betelgeuse. 620.

1924

Notes on the Phonetics of the Gilgit dialect of Shina. 1–42, 177–212.
Some Remarks on Free Will and Predestination in Islam, together with a translation of the Kitabu'l Qadar from the Sahih of al-Bukhari. 43–63.
The Babylonian and Persian Sacaea. 65.
The Religion of Ahmad Shah Bahmani. 73.
The Pictures of the Royal Asiatic Society. 81.
Karsa Karsapana. 93.
A grant of the Vakataka Queen of Prabhavatigupta. 94.
Suresvara and Mandana-Misra. 96.
The Termination *Waih* in Persian Proper Names. 97.
Public Health in Ancient China. 98.
The Indian Antiquary. 100.
The so-called Injunctions of Mani, translated from the Pahlavi of Denkart 3, 200. 213–227.
Dramatic Representations in S. India, with special reference to Travancore and Tinnevelly District. 229.
Some Words and Sentences illustrating the Argot of the Doms. 239.
Proto-Hittite. 245–255.
Mount d'Eli. 257.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The *Allallu*-Bird = *Coracias garrulus*, Linn. 258.
Note on Ophir. 260.
The Kundamala of Dignaga Acarya. 261.
The Pada-Taditaka of Syamilaka. 262.
Were the Asuras Assyrians? 265.
Note on JRAS., p. 136. 267.
Budaon, Badaun, or Badayun. 272.
The Earlier History of the Arabian Nights. 353–397.
Three Mathura Inscriptions and their bearing on the Kushana Dynasty. 399.
Pictographic Reconnaissances. Pt. VI. Pl. 407–434.
Note on Col. Lorimer's Phonetics of Gilgit Shina. 435.
Bekanata and Bikaner. 439.
A Note from the Memoirs of Jahangir. 440.
Amity and the Man. 442.
Note on Indra in Mahayanist Buddhism. 444.
Sanskrit Masculine Plurals in *-ani*. 449, 655.
Note on a Prakrit Dictionary. 450.
A Babylonian Explanatory Text. 452.
Cerebralization of Sindhi. 555–584.
The Identification of the Chinese Phœnix. Pl. 585.
A New Interpretation of Akbar's "Infallibility" Decree of 1579. 591–608.
Rudaki and Pseudo-Rudaki. 609–644.
The "Yuzghat" Inscription Revised. 645.
Philological Note. 654.
On Sina Cerebrals. 656.
A Note on Kundamala. 663.
The Moriyas of the Sangam Works. 664.
The Svapna-Vasavadatta of Bhasa. 668.
ᵘKur. Kur = Hellebore. 669.
Drakhme and *Stater* in Khotan. 671.

1925

Nahapana and the Saka Era. Pt. II. 1–19.
Analysis of Meaning in the Indian Philosophy of Language. 21–35.
The Babylonian Ritual for the Consecration and Induction of a Divine Statue. Pls. II–IV. 37–60.
Clues for the Arabian Influence on European Musical Theory. 61–80.
Note. 81.
The Era of Vikramaditya and the Dynasty of Gardabhilas and of Murundas. 81.
Note referring to "Cerebralization in Sindhi", JRAS., Oct., 1924. 86.
Are the Four Series (Front *t, d, r, n*; Back *ṭ, ḍ, ṛ, ṇ*; Aspirates, and Non-Aspirates) found in Sina? 87.
Samsuiluna's Sippar Inscription. 94.
Who is the Author of Svapna-Vasavadatta? 99.
The Sale of a Priesthood. 100.
Bhasa-krta Svapna-Vasavadatta. 100.
Bhasa and Accusatives Plural Masculine in *-ani*. 104.
Chinese in Ancient Khotan. 108.
Cakika. 110.
The late Dr. Hoernle's MSS. 110.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Nettipakarana an Earlier Book than the Patthana (Maha-Pakarana). 111.
Two New Manichæan Manuscripts from Tun-Huang. 113.
Prakritica. 215–236.
Sakara. 237.
Some Foreign Birds and Beasts in Chinese Books. Pls. V–VII. 247–261.
The Authorship of the Nalodaya. 263–275.
Notes on Harrian. 277.
The Lei Feng T'a. 285.
Miscellaneous Iranian Notes. 288.
The Conquests of Nabonidus in Arabia. 293.
Assyriological Notes, Esarhaddon Chronicle. Obv. 5. 295.
Byzantine Musical Instruments in the Ninth Century. 299.
Once again on Sina " Cerebrals ". 304–314.
Aurangzeb and the Treasure Hoard of Akbar. 314.
Notes on Tirahi. 399.
On the Tirahi Language. 405–416.
The Origin of Arabic Poetry. 417–449.
Metamorphic Stylization and the Sabotage of Significance. A Study in Ancient and Modern Chinese Writing. Pls. VIII–IX. 451–478.
The Organization of the Sannyasis of the Vedanta. 479.
A Hymn in Strophes to Ur-Ninurta. 487–497.
Dentals and Cerebrals in Sina. 497.
" No-le " and " Ratuara ". 498.
Some Notes on Mr. Keith's Interpretation of a Mahabhashya Passage, vol. ii, p. 36. Bom. S.S. 502.
An Additional Note on the Cambridge Ancient History, vol. i. 506.
Assyriological Notes. 508.
Chinese Printing in the Tenth Century. 513.
Badaun or Badayun. 517.
Sanskrit Names of Drugs in Kuchean. 623–638.
Arabic Musical MSS. in the Bodleian Library. 639–654.
A Seleucid Legal Text. 658–671.
The Bargi Invasion of Bengal. 673.
The Treatment of Indo-European *ŏ in Armenian. 679–696.
Sumerian Connections with Ancient India. Pl. 697.
The Kitab al-Jim of Abu 'Amr Ash-Shaibani. 701.
The Decipherment of the Hittite Hieroglyphic Inscriptions verified. 707.
Badaun or Badayun. 715.
Chinese Printing of the Tenth Century. 716.
Philological Note on Nalbas Same = Ishtar. 717.
Philological Note on the " Epic of Gilgamish ", Book XI, 88. 718.

1926

Data for Dating a Tale in the Nights. 1–14.
A Hymn to Ishtar as the Planet Venus and to Idin-Dagan as Tammuz. 15–42.
Akbar's Land Revenue Arrangements in Bengal. 43–56.
Cairene Topography : El Qarafa

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

according to Ibn Ez Zaiyat. 57.
A Note on the Sanskrit Monologue Play (Bhana) with special reference to the Caturbhani. 63–90.
Some Musical MSS. Identified. 91.
The Old Persian Musical Modes. 93.
Ibn Ash-Shajari. 96.
On Mandrake and Tragacanth in Cuneiform. 100.
Budaon, Badaun, or Badayun. 103.
Badayu and Badau. 104.
Bada'un or Badayun. 105.
Tablets belonging to Lord Amherst of Hackney. 227: Belshazzar's Captain and his three slaves. Nabonidus, 10th year, 545 B.C. 105.
Notes on Panjabi Aspirates and Tones. 113, 299.
Indo-Sumerian Seals. 115.
A Chinese Manichæan Hymnal from Tun-Huang. 116, 298.
A Western Organ in Medieval China. 193–211, 726.
A Qasida by Rudaki. 213–237.
The Canon and the Eschaquiel of the Arabs. 239.
Mongolian Proverbs: A Study in the Kalmuck Colloquial. 257–267.
Some Remarks on the Text of the Tabaqat ash-Shu'ara of Muhammad ibn Sallam al-Jumahi. 269.
Two Ancient Fragments of an Arabic Trans. of the New Testament. 275.
Ea-mummu and Anu-adapa in the Panegyric of Cyrus. 285.
Inscriptions formerly in the Musalla of Herat. 290.
The Story of Babar's Death. 295.
The Eumorfopoulos Bowl and the Historical Memoirs of Ssu-Ma Chien. 301.
A Distorted Simile. 304.
The new edition of Vincent Smith's "Early History of India". A correction in new edition. 305.
Deuteronomy xi, 10. 306.
Max van Berchem's Library. 308.
The Ha-za of Chinese Turkestan. 311.
Journal of the Gypsy Lore Society. 313.
Two Dialects spoken in the Central Persian Desert. 405–431.
Assyriological Notes. Pl. V. 433.
Sher Shah's Revenue System. 447.
Conquests of Siladitya in the South. 487.
Note on the Bhumi-Cchidra Nyaya. 488.
Kashmiri *Rostu* and *Sostu*. 489.
Footnotes to Tavernier. 491.
The Narada Pancharatra. 492.
The Organ of the Muslim Kingdoms. 495.
"The Horn of Alexander the Great." 500.
Ibn Muqaffa' and the Burzoë Legend. 503.
Two Languages from Central Asia. 505.
Greek στατήρ in Central Asia. 507.
Kashmiri खर्. 507.
A Chinese Buddhist Text in Tibetan Writing. 508.
Abu Tammam and Ibn Hani. 629–642.
The Later Satavahanas and the Sakas. 643–665.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Sur la lettre en langue Mitanni. 667.
Babylonian Foundation Texts. 678.
Babylonian Prophylactic Figures. 689–713.
La Tholos Aryenne du Malabar. 715.
Life an Ocean: the Body a Boat. 716.
Use and Meaning of the Term Khari Boli. 717.
Assyrian *Garidu* = Beaver. 723.
Corrigenda. 724.
A Note on Kalidasa. 725.
A Western Organ. 726.

1927

Some Poems in the Sabzawari Dialect. 1–41.
Six Babylonian and Assyrian Seals. 43.
Tibetan Documents concerning Chinese Turkestan. I: The Haza. 51–85. II: The Sa-cu Region. 807–844.
Hittite Legends. 87.
The Date of the Danish-nama-i-jahan. 95.
Pidar-sukhta. 96.
Persian Version of the Darius Gold Tablet. 97.
Coinage of the Mahmudis. 101.
The Mogul Unit of Measurement. 102.
The Use of Tones in Sema Naga. 103.
The Asih-prelude in the Maha-kavya. 109.
1: Surparaka. 2: Vitasta-Hydaspes. 111.
The Chinese Atlas in the Magliabecchian Library. 120.
Amatya-A-mo-chih. 121.
Pravamnaga. 121.
The Unknown Co-Founders of Buddhism. 193–208.
The Text of the Buddha-carita, Cantos i–viii. 209–226.
The Phonetic Weakness of Terminational Elements in Indo-Aryan. 227–239.
Buddhist Miscellanea. 241–279.
A Second Chinese Buddhist Text in Tibetan Characters. 281–306, 858.
Hasan - i - Rumlu's Ahsanu't-tawarikh. 307.
The Factories at Canton, 1807. 313.
West Himalayan *Bohri* and Sina *Bodu*. 316.
Hurian Sala(s). 316.
Assyrian *Garidu* = "Beaver." 320.
A Hittite Inscription from Angora. 320.
The Word "Vasthanam" in Asvaghosa. 322.
Sthanam. 322.
Assyriological Note. 323.
The "Ahurian" and "Daevian" Vocabularies in the Avesta. 427–441.
Some New Notes on Babiism. 443–470.
On the Date of the Subha-sitavali. 471.
Islam and the Protected Religions. 479.
The Hindu Shahiya Kingdom of Ohind. 485–495.
The Substance called "Didi" by the Ancient Egyptians. 497.
The Dual Authorship of the Kavya-prakasa. 505–520.
On the Pronunciation of the Common Turkish "R". 521.
The "Shalamians" of Arabia. 529.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Fragment of an Incantation Series, DT. 57. 535.
Note on the old North-Western Prakrit. 541.
A Plural Form in the Prakrit of Khotan. 544, 848.
A Chinese Buddhist Pilgrim's Letters of Introduction. 546.
R sounds in Kafir Languages. 558.
Is "Guava" the real name of امرود ? 559.
XVIIth International Congress of Orientalists, Oxford, 1928. 561.
Kausambi. 689.
The Moscho-Hittite Inscriptions. 699.
The Conjugation of the Transitive Verb in the Principal Dialects of Shina. 717–764.
Statuette of Gudea. 765.
Pictographic Reconnaissances. Pt. VIII. Pl. VII. 769–789.
Phœnician Inscription from Ur. Pl. VIII. 791.
A New Kind of Old Arabic Writing from Ur. 795.
A Gold Coin (Dinar) of Mustanjid. 845.
A Correction: India Office Catalogue. 840.
Two Sunga Railing Pillars. 847.
Khari Boli. 847.
On the Old North-Western Prakrit. 849.
Dardic Intervocalic Consonants, $D > L$. 853.
A Peculiar Meaning of Yoga. 854.
Note supplementary to the Article "A Second Chinese Buddhist Text in Tibetan Characters" (JRAS. 1927, pp. 281–306). 858.

1928

The "Fifty-seven Years" in the Zoroastrian Doctrine of the Resurrection. 1.
Is the Nyayapravesa by Dinnaga? 7.
Temple-and-Image Worship in Hinduism. 15.
A North African Folk Instrument. Pl. I. 25.
The Painted Pottery of Susa. 35–50.
Mitlani. 51–62.
Tibetan Documents concerning Chinese Turkestan. II: Sacu Region. 63–98. III: Nob Region. 555–595.
A Hitherto Unknown Turkish Manuscript in "Uighur" Characters. 99–130.
Notes on the Text of Asvaghosa's Saundarananda. 131.
Amitraghata. 132.
Date of the Subhasitavali. 135.
Note on a New Taxila Inscription. 137.
Assyriological Notes. 143.
The Excavations at Ur. 148.
A Gold Coin of Mustanjid. 149.
The Original Home of the Hittites and the Site of Kussar. 257.
The Nizamiya Madrasa at Baghdad. 265, 609.
The Unknown Co-Founders of Buddhism: A Sequel. 271–286.
Is there a Gabri Dialect of Modern Persian? 287–319.
Kandalanu and Asurbanipal. 321, 622.
Pictographic Reconnaissances. Pt. IX and Index. 327–337.
Pauskarasadi. 339.
Brother Jordan of Sévérac. 349.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

List of Plates

in order of publication

1920

Pl. I, p. 85. Egypto-Karian Bilingual Stele in the Nicholson Museum, Sydney.

1921

Pl. I, p. 45. The Honan Relics.
Pl. II, p. 415. Shaykh Abdal Pirzada, the author's father, presenting the captured horse of the Uzbek leader, Din Muhammad Khan to Shah Abbas the Great (MS., f. 80a).

1922

Unnumbered, p. 73. Pictographic Reconnaissances, Pt. IV.
Pls. I–VI, p. 264. Kufic Inscription in Kisimkazi Mosque, Zanzibar.

1923

Pl. I, p. 78. The Bhopal Wasiyat-nama-imakhfi.
Pl. II, p. 233. Shapes of Mesopotamian Pottery.
Pl. III, p. 236. Mesopotamian Pottery, Knockers, etc.
Pl. IV, p. 240. Mesopotamian Copper Vessels, Fans, etc.
Pl. V, p. 405, Pl. VI, p. 408. Arabic Inscriptions on Textiles.
Pl. VII, p. 573, Pls. VIII–XI, p. 576. Salients of the Mosque of al-Hâkim at Cairo.
Pl. XII, p. 616. Une tapisserie arabe du viiie siècle.

1924

Pl. I, p. 433. Pictographic Reconnaissances, Pt. VI.
Pl. II, p. 586. Ocellated Pheasant drawn from an actual specimen.

1925

Pl. I, p. 1. Plan of Cave 3 at Pandu Lena, Nasik District.
Pls. II–IV, p. 40. B.M. No. 45749, Obverse and Reverse.
Pl. V, p. 251. Fig. 1, Zebra or Fu-lu; Fig. 2, Giraffe or Ch'i-len.
Pl. VI, p. 254. Fig. 3, Oryx or Ma-ha-shore. Fig. 4, Hornbill or Ho-tong.
Pl. VII, p. 257. Fig. 5, Lion. Fig. 6, Horse.
Pl. VIII, p. 462. Metamorphic Stylization and the Sabotage of Significance.
Pl. IX, p. 470. Metamorphic Stylization and the Sabotage of Significance.
Pl. X, p. 698. Objects from Kish: Mesopotamia.

1926

Pls. I–IV, pp. 194–205. A Western Organ in Mediæval China.
Pl. V, p. 440. B.M. 116737, Scale 1/1.
Pl. VI, p. 464. Figs. 1–4, Pictographic Reconnaissances, Pt. VII.
Pl. VII, p. 483. Pictographic Reconnaissances, Pt. VII.
Pl. VIII, p. 484. Pictographic Reconnaissances, Pt. VII.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Pls. IX–XI, p. 692. Babylonian Prophylactic Figures.
Pls. XII–XIII, p. 708. Babylonian Prophylactic Figures.
Pl. XIV, p. 716. Fig. 1, La tholos double de Pounnol. Fig. 2, Porte d'une tholos à Padinyakakamuri.
Pl. XV, p. 716. Fig. 1, Porte de la tholos de Pounnol au Malabar; Fig. 2, Intérieur de la meme tombe.

1927

Pl. I, p. 48. Six Babylonian and Assyrian Seals.
Pl. II, p. 314. The Canton Factories, 1807.
Pl. III, p. 443. Facsimile of one-half of a page of the history mentioned in the article "Some New Notes on Babiism."
Pl. IV, p. 535. Nabataean Sepulchral Inscription. Dt. 57, Obverse 11. Dt. 57, Reverse 11.
Pl. V, p. 694. Fig. 1, Meohad Inscription of V.S. 1245; Fig. 2, Kara Inscription of Yasahpala.
Pl. VI, p. 767. Statuette (O) of Gudea in the Baghdad Museum.
Pl. VII, p. 771. Pictographic Reconnaissances, Pt. VIII.
Pl. VIII, p. 791. Phœnician Inscription from Ur.

1928

Pl. I, p. 25. Cambreh Gunibris, Gunbri.
Pl. II, p. 106. Brit. Mus. Or. 8193, fol. 173 v.
Pl. III, p. 108. Brit. Mus. Or. 8193, fol. 14 v.
Pls. IV–V. p. 840. Fig. 1, Bodhisattva: Kapardin Type; Fig. 2, the *cudamaha* enshrined; Fig. 3, The *cudamaha* enshrined; Fig. 4, Bodhisattva or donor; Fig. 5, Bodhisattva ?; Fig. 6, Head of Siva: Fig. 7, Head of Siva, side view; Fig. 8, Coronation of the Buddha.

1929

Pl. I, p. 19. Fragment of Papyrus, B.M. 10447.
Pl. II, p. 40. De Sin Cun Tson Kyen He.
Pls. III–IV, pp. 108–9. Aramaic Ostraka A.
Pl. V, p. 111. Aramaic Ostraka B.
Pl. VI, p. 272. Coins of Akbar Shah as Pretender, and of Bedar Bakht.
Pls. VII–VIII, p. 500. Meccan Musical Instruments.
Pl. IX, p. 572. The Human Figure in Archaic Chinese Writing.

Index of Authors, Subjects and Reviews

Abdu 'l Mu'min. *1921*, 57.
Abhidhamma-Pitaka. *1923*, 243.
'Abid b. al-Abras. *1922*, 43; *1925*, 438.
Abracadabra. *1920*, 597; *1922*, 86.
Abu 'Amr Shaibani. *1925*, 430, 701.
Abu Ja'far. *1926*, 216.
Abu Tildah al-Yashkuri. *1925*, 427.
Abu Tamman. *1926*, 629.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Adad-Nirari III. *1928*, 519–554.
Aden, Attack in 1516. *1921*, 559.
Agni-Purana. *1923*, 537.
Ahmad Shah Bahmani. *1924*, 73.
Ahsanu't-Tawarikh. *1927*, 307.
Ahurian Vocabulary. *1927*, 427–441.
'Ain-al-Mulk. *1922*, 350.
Ainallu Tribe. *1923*, 210.
Aiyangar, S. K. *1923*, 609.
Aiyar, K. G. Sesha. *1924*, 257.
Aiyer, K. V. S. *1922*, 161–175.
al-'Ajjaj. *1925*, 445.
Akbar. *1924*, 591–608 ; *1926*, 43.
Akbarnama. *1921*, 585.
al-Akhtal. *1925*, 445.
Al Bu Said Dynasty. *1929*, 955.
Alai-Pamirs. *1929*, 691.
Alai Expedition. *1928*, 405.
Alamkara School. *1923*, 543.
Alara Kalama. *1927*, 194.
Albright, W. F. *1925*, 293 ; *1926*, 285.
Alexander the Great, Death of. *1928*, 618.
'Ali Shah. *1922*, 349.
Allallu-Bird. *1924*, 258.
Allan, T. *1921*, 475–7 (revs.) ; *1923*, 142 (rev.), 310–12 (revs.), 624 (rev.), 647–653 (revs.) ; *1924*, 721–6 (revs.).
Alphabets Anthropos. *1923*, 415, 617.
Alphabets, Cadmeian, *1923*, 35–73, 169–207. Kharosthi. *1920*, 193. Semitic. *1920*, 297. Tibetan. *1929*, 843.
Amatya—A-Mo-Chih. *1927*, 121.
Amaravati. *1928*, 397.
Amir Husayn. *1921*, 548.
'Amir ibn at-Tufail. *1922*, 43.
Amitraghata. *1928*, 132.
Amity and the Man. *1924*, 442.
'Amr b. Kulthum. *1925*, 443.
'Amr ibn Qami'a. *1922*, 43.
Amurru. *1920*, 583.
Anahita. *1924*, 65.
Anaraki dialect, *1926*, 410.
Anderson, J. D. *1920*, 651 (rev.).
Andersson, J. G. *1929*, 422 (Lecture).
Anniversary Meetings. *1920*, 421 ; *1921*, 481 ; *1922*, 475 ; *1923*, 492 ; *1924*, 506 ; *1925*, 573 ; *1926*, 588 ; *1927*, 649 ; *1928*, 720 ; *1929*, 697.
Ansari. *1923*, 1–34, 337–382.
Ansari, N. A. *1921*, 307 (ob.).
'Antarah of 'Abs. *1925*, 436.
Anu-adapa. *1926*, 285.
Arab Tradition. *1921*, 125.
Arabian Nights. *1924*, 353–397.
Arabians, The. *1929*, 952.
Arabs in the Sudan. *1928*, 993.
Aramaic Ostraka. *1929*, 106.
Arba. *1922*, 588.
Ardashir Papakan. *1920*, 221–6.
Argot of the Doms. *1924*, 239.
Armenian *o. *1925*, 679–696.
Arthasastra of Kautilya. *1929*, 77–102.
Arwah. *1929*, 525.
Aryasura. *1929*, 81.
Asalam. *1920*, 281.
Asanga. *1929*, 451.
Ashkawar. *1920*, 296.
Ashurbanipal. *1921*, 389 ; *1928*, 321, 622.
Asih-prelude. *1927*, 109.
al-Asmai. *1925*, 430.
Asoka Edicts. *1923*, 88 ; 609.
Assaji. *1927*, 195.
Assyrian Garidu = Beaver. *1926*, 723 ; *1927*, 322.
Assyrian Incantation. *1927*, 535.
Assyrian Language. *1921*, 583.
Assyrian Lexicographical Notes. *1920*, 325–331 ; *1921*, 573.
Assyrian Prayers. *1920*, 565 ; *1929*, 761, 766.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Assyrian Prescriptions. *1929*, 801.
Assyrian Roots. *1921*, 389.
Assyrian Seals. *1927*, 43.
Assyriological Notes. *1925*, 295, 508; *1926*, 433–446; *1927*, 323; *1928*, 143, 849–875.
"Astronomical" Temple in India. *1929*, 247–258.
Asuras. *1924*, 265.
Asvaghosa. *1928*, 131; *1929*, 78, 537.
Atkinson, B. F. C. *1925*, 679–696.
Aurungzeb. *1925*, 314.
Avalokitesvara-Kuan Yin. *1927*, 241.
Ayyar, A. S. R. *1925*, 263–275.
Ayscough, F. *1924*, 469–475 (revs.); *1925*, 564 (rev.); *1928*, 151 (rev.). *1929*, 205–9 (revs.), 650–3 (revs.).
Aziz Koka. *1921*, 205.
B.M. MS. Or. 8193. *1928*, 614.
Babar's Death. *1926*, 295; *1928*, 399.
Babiism. *1927*, 443.
Babur-nama. *1923*, 75.
Baburiana. *1923*, 75.
Babylonia, Modern. *1923*, 233.
Babylonian Explanatory Text. *1924*, 452.
Babylonian Fertility Cult. *1928*, 849.
Babylonian Figures. *1926*, 689.
Babylonian Texts. *1926*, 679.
Babylonian Ritual. *1920*, 25; *1925*, 37–60.
Babylonian Rulers. *1922*, 389.
Babylonian Sacaea. *1924*, 65.
Badaun or Badayun. *1925*, 517, 715; *1926*, 105.
Badayu and Badau. *1926*, 104.
Badr al-Gamaly. *1923*, 582.
Baghdad. *1922*, 429; *1928*, 265, 609.
Baharlu Tribe. *1923*, 212.
Bailey, T. Grahame. *1920*, 662–6 (revs.); *1921*, 467–471 (revs.); *1922*, 299 (rev.), 439 (rev.); *1923*, 110 (rev.), 145–8 (revs.), 475–7 (revs.); *1924*, 281–8 (revs.), 435, 730 (rev.); *1925*, 87, 115–121 (revs,). 344 (rev.), 497, 570 (rev.). *1926*, 104, 113, 299, 717, 797 (revs.); *1927*, 316, 404 (rev.), 558, 599–603 (revs.), 847; *1928*, 760 (ob.); *1929*, 603, 606.
Bairam Khan. *1924*, 598.
Banerjee, S. Ch. *1928*, 900.
Banerji, R. D. *1920*, 193–219; *1925*, 1–19.
Banerji-Sastri, A. *1921*, 367.
Bantu. *1920*, 352.
Bar Hebraeus. *1920*, 231.
Bara Fi-Sa. *1929*, 581, 869.
Barani. *1922*, 322.
Bargi Invasion of Bengal. *1925*, 673.
Barnett, L. D. *1920*, 254 (rev.); 376–380 (revs.), 605 (rev.). *1921*, 133–5 (revs.), 478 (rev.), 587, 591–4 (revs.). *1922*, 300 (rev.), 447–451 (revs.). *1923*, 275–281 (revs.), 421–444 (revs.), 625 (rev.); *1924*, 288–307 (revs.), 475–491 (revs.), 655; *1925*, 99, 181–8 (revs.), 348–355 (revs.), 522–536 (revs.); *1926*, 166 (ob.), 153–163 (revs.), 336–343 (revs.), 756–780 (revs.); *1927*, 166–9 (revs.), 346–357 (revs.), 848, 861–877 (revs.), 934 (ob.); *1928*, 180 (rev.), 429–437 (revs.), 668–679 (revs.), 933–943 (revs.); *1929*, 125–148 (revs.), 420 (Lecture), 620–630 (revs.), 731–748.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Basiri Tribe. *1923*, 211.
Bau. *1924*, 68.
Bayhaqi. *1924*, 639.
Baynes, N. H. *1920*, 355–364 (rev.).
Bedar Bakht. *1929*, 269.
Bega Races. *1929*, 415.
Bekanata and Bikaner. *1924*, 439.
Bel-Marduk. *1924*, 69.
Bellino Cylinder. *1928*, 547.
Belshazzar's Captain and his Three Slaves. *1926*, 105.
Bendahara. *1921*, 246.
Berchem, Max van, his Library. *1926*, 308.
Bereketli. *1928*, 262.
Berossus. *1924*, 67.
Bevan, A. A. *1921*, 584 ; *1922*, 143 (ob.) ; *1926*, 269.
Beveridge, A. A. *1920*, 667–9 (ob.) ; *1923*, 75 (Pl. I) ; *1925*, 517.
Beveridge, H. *1920*, 235 (rev.) ; *1921*, 131 (rev.), 205, 421, 445 (rev.), 619 (rev.) ; *1922*, 269 ; *1923*, 125 (rev.), 483 (rev.), 620.
Bhamaha. *1929*, 825.
Bharhut. *1928*, 390.
Bhasa. *1921*, 367, 587 ; *1922*, 79 ; *1925*, 104.
Bhasa-krta Svapna-vasavadatta. *1925*, 100.
Bhaskara. *1925*, 675.
Bhattacharya, P. *1920*, 1–19 ; *1926*, 488.
Bhattacharyya, D. C. *1928*, 135.
Bhoja. *1923*, 537–549.
Bhatti. *1929*, 825.
Buddhaghosa. *1923*, 265.
Bhumi-cchidra Nyaya. *1926*, 488.
Binduka River. *1929*, 115.
Bindusara. *1928*, 132.
Blackman, A. M. *1924*, 313–327 (revs.) ; *1925*, 506 ; *1927*, 407 (ob.).
Blagden, C. O. *1920*, 255 (rev.), 652 (rev.) ; *1921*, 246, 638–646 (revs.) ; *1922*, 625 (revs.) ; *1923*, 144 (rev.), 444–452 (revs.) ; *1924*, 119–122 (revs.), 713–721 (revs.) ; *1926*, 362, 577 (rev.), 743–752 (revs.) ; *1927*, 641 (rev.), 924–6 (revs.) ; *1928*, 153–8 (revs.), 178 (rev.), 908–919 (revs.) ; *1929*, 936–940 (revs.).
Blochet, E. *1923*, 613 (Pl. XII).
Bode, M. H. *1920*, 256–8 (rev.) ; *1922*, 127 (rev.).
Bodo. *1929*, 581.
Boghaz Keui. *1920*, 49–83 ; *1922*, 177–190, 547 ; *1925*, 278 ; *1927*, 87.
Bohri and Bodu. *1927*, 316.
Book of the Apple. *1920*, 232.
Bor, M. L. *1927*, 103.
Bork, F. *1928*, 51–62.
Boston, Report of the R.A.S. Delegation to. *1922*, 93.
Bowen, H. *1928*, 609 ; *1929*, 225–245, 662–5 (revs.).
Boyo. *1929*, 512.
Briggs, M. S. *1927*, 393 (rev.).
Brother Jordan of Sévérac. *1928*, 349–376.
Brown, R. Grant. *1920*, 352–3 (revs.), 375 (rev.) ; *1923*, 120 (rev.), 298 (rev.), 490 (rev.), 617 ; *1925*, 145–150 (revs.), 735–8 (rev.) ; *1926*, 375 (rev.).
Browne, E. G. *1921*, 140 (rev.), 395–418 (Pl.) ; *1922*, 145 (ob.) ; *1924*, 275–280 (revs.).
Buckler, F. W. *1924*, 591–608.
Budaon, Badaun, or Badayun. *1924*, 272 ; *1925*, 517, 715–16 ; *1926*, 103, 104, 105.
Buddha in Indian Art. *1928*, 815.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Buddhacarita. *1927*, 209 ; *1929*, 537.
Buddha, Hair Relic of the. *1928*, 824.
Buddhism. *1927*, 193, 209, 241, 281, 858 ; *1928*, 271.
Buddhist Logic. *1929*, 451, 870.
Buddhist Reliefs. *1928*, 390.
al-Bukhari. *1924*, 43–63.
Bulghar. *1929*, 791.
Bundahishn. *1928*, 1.
Burn, Sir R. *1929*, 907–913 (revs.).
Burton Centenary. *1921*, 304.
Burton Memorial Lecture. *1928*, 992.
Burrows, E. *1924*, 329–332 (revs.), 699–712 (revs.) ; *1925*, 277 ; *1926*, 315–329 (revs.) ; *1927*, 318, 791 (Pl.), 795 ; *1928*, 262, 953–8 (revs.) ; *1929*, 185 (rev.).
Bursakhanda. *1921*, 52.
Buruskhanda. *1928*, 262.
Burushaski Language. *1929*, 509.
Burzoe Legend. *1926*, 503.
Busiris. *1923*, 191.
Buwayhids. *1929*, 225.
Cadell, P. R. *1928*, 682–8 (revs.) ; *1929*, 157 (rev.).
Cakika. *1925*, 110.
Calligraphic Upright Gupta Script. *1927*, 260.
Campbell Memorial Gold Medal Presentation. *1924*, 326.
Cambridge Ancient History. *1925*, 506.
Cameron, A. *1927*, 320.
Canakya. *1929*, 87.
Canon and Eschaquiel of the Arabs. *1926*, 239–256.
Canton Factories in 1807. *1927*, 313.
Cape, C. Phillips. *1924*, 239.
Carchemish. *1921*, 47 ; *1922*, 427, 540, 546–580 ; *1923*, 409.
Carr, R. C. Culling. *1921*, 616 (rev.) ; *1923*, 128–9 (revs.).
Cartwright, B. O. *1928*, 158–160 (revs.).
Casartelli, L. C. *1922*, 102 (rev) ; *1923*, 108 (rev.) ; *1924*, 108 (rev.).
Castana. *1926*, 650.
Caturbhani. *1926*, 63.
Centenary Celebrations, R.A.S. *1923*, 655–669.
Centenary Celebrations of Société Asiatique. *1922*, 650.
Central Asian Expedition. *1929*. 686.
Central Asian Languages. *1926*. 505.
Cer-cen. *1928*. 564.
Cerebralization in Sindhi. *1924*, 555–584 ; *1925*, 86.
Chaldean Kings before the Flood. *1923*, 251.
Chalmers, Lord. *1923*, 323 (ob.).
Chanda, Ramaprasad. *1920*, 319–324.
Charpentier, J. *1923*, 452–7 (revs.), 585–608 ; *1924*, 440 ; *1925*, 237–246, 361–374 (revs.), 566–570 (revs.), 733 (rev.), 796–812 (revs.) ; *1926*, 123–139 (revs.), 358 (rev.). *1927*, 111–120, 137–148 (revs.), 327–343 (revs.), 603–6 (revs.), 877–881 (revs.) ; *1928*, 132, 339, 410–679 (rev.), 692 (rev.), 900, 902. *1929*, 148–154 (revs.), 609–612 (revs.), 913–920 (revs.).
Chattopadhyaya, K. *1927*, 854.
Chaul. *1921*, 547.
Chech. *1929*, 522.
Cheras. *1922*, 162.
Chien Shore T'ang. *1921*, 29.
China Trade. *1922*, 227–254.
Chinese Art in Berlin. *1929*, 337.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Chinese Atlas. *1927*, 120.
Chinese Buddhist Pilgrim's Letters of Introduction. *1927*, 546–558.
Chinese Buddhist Text in Tibetan writing. *1926*, 508 ; *1927*, 281–306, 858.
Chinese Court of Justice. *1922*, 573 ; *1927*, 313.
Chinese in Ancient Khotan. *1925*, 108.
Chinese Manichæan Hymnal from Tun-huang. *1926*, 116, 298.
Chinese Printing in the Tenth Century. *1925*, 513, 716.
Chinese, Problems in Archaic. *1928*, 769–813.
Chinese Turkestan, Tibetan Documents. *1927*, 51–85 ; *1928*, 63–98, 555–595.
Chinese Writing. *1925*, 451–478.
Cholas. *1922*, 162.
Clauson, G. L. M., and *Thomas*, F. W. *1927*, 281–306, 639–641 (revs.).
Clauson, G. L. M. *1921*, 635 (rev.) ; *1922*, 139–140 (revs.), 458 (rev.) ; *1923*, 488 (rev.), 639 (rev.) ; *1924*, 123–133 (revs.) ; *1925*, 133–8 (revs.), 750–4 (revs.) ; *1926*, 330–2 (revs.), 508–526 ; *1927*, 391–2 (revs.), 397 (rev.) ; 1928, 99–130 (Pls. II–III), 163–5 (revs.), 614, 652 (rev.), 924–931 (revs.) ; *1929*, 37–76, 117, 201–5 (revs.), 648 (revs.), 843–862, 926–9 (revs.).
Clermont-Ganneau, M. *1923*, 263.
Co - Founders of Buddhism. *1927*, 193–208 ; *1928*, 271–286.
Codrington, H. W. *1924*, 93 ; *1928*, 149 ; *1929*, 165–9 (revs.).
Coin (Gold) of Mustanjid. *1927*, 845 ; *1928*, 149.
Congress, International Archæological in Palestine and Syria. *1926*, 606.
Conon. *1923*, 173.
Constellation Betelgeuse. *1923*, 620.
Cook, S. A. *1929*, 872 (ob.).
Cooke, G. A. *1922*, 270.
Coomaraswamy, A. K. *1926*, 305 ; *1927*, 323 ; *1928*, 377–90, 390–8, 629, 815–840.
Cousens, H. *1928*, 943–5 (revs.).
Cowley, A. *1920*, 175–184 ; *1923*, 328 (ob.) ; *1929*, 107 (Pls. III–V).
Creation Legend. *1920*, 583.
Creswell, K. A. C. *1921*, 627 (rev.) ; *1923*, 573–584 (Pls. I and II) ; *1927*, 847.
Crooke, W. *1920*, 248 (rev.) ; *1923*, 122 (rev.).
Crum, W. E. *1923*, 477 (rev.) ; *1924*, 307 (rev.) ; *1925*, 757 (rev.) ; *1926*, 734 (rev.) ; *1928*, 977 (rev.).
Cuda. *1928*, 815.
Cyrus, Panegyric of. *1926*, 285.
Daevian Vocabulary. *1927*, 427–41.
Daiches, S. *1928*, 615 ; *1929*, 584.
Daiyal. *1929*, 512.
Dames, M. L. *1920*, 108–113 (rev.), 238–242 (rev.) ; *1921*, 1–28, 263 (rev.), 303 (ob.), 648–56 (revs.).
Danahi Nishapuri. *1927*, 2.
Danaus. *1923*, 196.
Danish-Hama-i-Jahan, date. *1927*, 95.
Dar-ur-rakik. *1928*, 405.
Dara-i-Nur. *1921*, 421 ; *1922*, 269.
Dardic Intervocalic Consonants *D* > *L*. *1927*, 853.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Dari dialect. *1928*, 296.
Darius Gold Tablet. *1927*, 97.
Dasgupta, S. N. *1925*, 138 (rev.).
Datistani Denik. *1928*, 2.
Davids, C. A. F. Rhys. *1923*, 243 ; *1924*, 442, 673 (rev.) ; *1925*, 111, 128–133 (revs.) ; *1926*, 163–5 (revs.), 304, 346–9 (revs.)., 572 (rev.), 799 (rev.) ; *1927*, 160 (rev.), 193–208, 632–9 (revs.) ; *1928*, 271–286 ; *1929*, 27.
Dawson, W. R. *1927*, 497 ; *1928*, 213–19 (rev.), 597–608, 979 (rev.).
Daylaman. *1920*, 291.
De . U. *1929*, 516.
De, S. K. *1922*, 577 ; *1923*, 537–549 ; *1924*, 663 ; *1926*, 63–90 ; *1927*, 109, 471 ; *1928*, 403.
Deb, H. K. *1922*, 37.
Decorative Art, Malay. *1927*, 749.
Delly, Mount. *1923*, 83.
Deuteronomy, xi, 10. *1926*, 306.
Devesvara. *1922*, 577.
Dewhurst, R. P. *1921*, 419 ; *1922*, 299 (revs.) ; *1923*, 460–4 (revs.) ; *1924*, 498–503 (revs.), 676–692 (revs.) ; *1925*, 288, 317–334 (revs.), 784–794 (revs.) ; *1926*, 527–539 (revs.), 629–642 ; *1927*, 125–137 (revs.) ; 580–6 (revs.), 908–911 (revs.) ; *1928*, 693–7 (revs.), *1929*, 190 (rev.), 921–6 (revs.).
Dharmagupta. *1927*, 256.
Dharmakirti. *1929*, 825.
Dhu'l-Asba'. *1925*, 433.
"Didi." *1927*, 497.
Dima-sa. *1929*, 581.
Dinnaga. *1928*, 7, 377, 905 ; *1929*, 451, 870.
Divan-i-Rudaki. *1924*, 609.
Divekar, H. R. *1927*, 505–520 ; *1928*, 893 ; *1929*, 825–41.
Dmitrijev, N. K. *1927*, 521 ; *1928*, 408.
Doctrine (Zoroastrian) of the Resurrection. *1928*, 1.
Doms. *1924*, 239.
Dor-te. *1928*, 591.
Drakhme and Stater in Khotan. *1924*, 671.
Drama, Hindu. *1923*, 585–608.
Dramatic Representations in S. India. *1924*, 229.
Driver, G. R. *1920*, 305–318 ; *1921*, 389, 563 ; *1923*, 393–403 ; *1925*, 100 (rev.) ; *1926*, 729 (rev.) ; *1927*, 889 (rev.).
Durand, H. M. *1921*, 629 (rev.) ; *1923*, 491 (ob.).
Duta-vakya. *1923*, 607.
Ea. *1929*, 285.
Ea-Mummu. *1926*, 285.
East India Co., Trade. *1922*, 227–254.
Edwards, E. *1925*, 381 (ob.).
Edwardes, S. M. *1924*, 139 (rev.) ; *1926*, 807 (ob.) ; *1927*, 363 (rev.).
Eisler, R. *1923*, 35–73, 169–207.
El Qarafa according to Ibn Ez Zaiyat. *1926*, 57.
Eli Kingdom. *1922*, 174.
Eli, Mount d'. *1924*, 257.
Ellis, A. G. *1927*, 574 (rev.). 1929, 729 (ob.).
Enthoven, R. E. *1922*, 533 ; *1925*, 180 ; *1926*, 737 (rev.), 793 (rev.) ; *1927*, 162 (rev.), 606 (rev.), 616 (rev.) ; *1929*, 363–6 (revs.), 642 (rev.).
Ephrem, S. *1922*, 523.
Epic of Gilgamish. *1925*, 718.
Epigraphical Notes. *1922*, 270.
Erakapatra Nagaraja. *1928*, 629.
Esarhaddon Chronicle. *1925*, 295.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Eschaquiel. *1926*, 252.
Eumofopoulos Bowl. *1926*, 301.
Europus, Title of Carchemish. *1922*, 580.
Eurupulos. *1922*, 584.
Expedition, Russo-German Alai. *1928*, 405.
Expiation-Ritual against Sickness. *1929*, 281.
Fa-hian. *1920*, 225 ; *1927*, 690.
Factories at Canton, 1807. *1927*, 313.
Fakhr-al-din. *1922*, 349.
Fakhir. *1924*, 374.
Farah-nama. *1929*, 445, 862.
Farmer, H. G. *1925*, 61–80, 299, 639–654 ; *1926*, 91, 93, 239–256, 495, 500 ; *1928*, 25 (Pl. I), 509–518 ; *1929*, 119, 489–505 (Pls. 7–8), 599, 940 (rev.).
Farquhar, J. N. *1920*, 185–192, 262 (rev.) ; *1922*, 373 ; *1925*, 479 ; *1926*, 492 ; *1928*, 15, 173 (rev.).
Fars-Nameh-i-Nasiri. *1923*, 209–231.
Fayyad. *1927*, 6.
Fihrist. *1924*, 364.
Filchner, W. *1929*, 685 (Lecture).
Finot, L. *1920*, 447–452.
Firuz. *1924*, 74.
Firuz ibn Rajab. *1922*, 365.
Flury, S. *1922*, 257–264 (Pls. 1–6).
Flute (Arabian). *1929*, 500.
Foreign Birds and Beasts in Chinese Books. *1925*, 247–261.
Foster, W. *1920*, 262 (rev.), 380 (rev.) ; *1921*, 155 (rev.) ; *1922*, 88 ; *1923*, 313 (rev.) ; *1924*, 81 ; *1925*, 314 ; *1926*, 491, 575 (rev.), 583 (ob.) ; *1929*, 638.
Francisco Pelsartt. *1923*, 85.
Fravasis. *1929*, 733.
Free Will and Predestination in Islam. *1924*, 43–63.
Fulton, A. S. *1928*, 706 (rev.) ; *1929*, 125 (ob.).
Gabri Dialect. *1928*, 287–319.
Gadd, C. J. *1922*, 389 ; *1925*, 94 ; *1926*, 679 ; *1928*, 626 ; *1929*, 875–882 (revs.).
Gait, E. A. *1929*, 348.
Gardabhilas. *1925*, 81.
Garidu = Beaver. *1926*, 723.
Garshuni or Karshuni ? *1928*, 891.
Gaskar. *1920*, 277.
Gaster, M. *1920*, 106 (rev.) ; *1921*, 429–437 (revs.), 663 (rev.) ; *1922*, 122–5 (revs.) ; 635 (rev.) ; *1923*, 49 (rev.) ; *1925*, 142 (rev.), 338 (rev.), 559–560 (revs.), 728–731 (revs.) ; *1926*, 372 (revs.) ; *1927*, 360 (rev.), 399 (rev.), 400 (rev.), 576–9 (rev.), 912–19 (revs.) ; *1928*, 165 (rev.), 186–191 (revs.), 946 (rev.), 959 (rev.) ; *1929*, 174–181 (revs.), 192 (revs.), 395–400 (revs.), 659–662 (revs.), 900–906 (revs.).
Gautamiputra Satakarni. *1925*, 4.
Genghis Khan. *1926*, 206.
Genius (The). *1929*, 731.
Ghiyas-al-din. *1922*, 319.
Ghulam Qadir Khan. *1929*, 260.
Gibb, H. A. R. *1928*, 220 (revs.) ; *1929*, 390 (rev.).
Gilan. *1920*, 277–296.
Gilbertson, G. W. *1928*, 167 (rev.).
Giles, H. A. *1923*, 103 (rev.) ; *1924*, 459 (rev.).
Giles, L. *1921*, 630 (rev.) ; *1923*, 315 (rev.) ; *1924*, 141 (rev.), 332 (rev.), 467 (rev.) ; *1925*, 513 ; *1929*, 199–201 (revs.).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

R 950.5 L84 1920. 112529

Gilgames, Epic. *1928*, 559–671; *1929*, 343.
Gilgit. *1924*, 1–42, 177–212, 435; *1929*, 490.
Glanville, J. R. K. *1929*, 19 (Pl. I).
Glossary, Ethiopic–Falasi. *1920*, 573; *1921*, 211–237.
Gowen, H. *1922*, 576.
Gray, L. *1927*, 97, 427–441.
Greek στατήρ in Central Asia. *1926*, 507.
Grierson, G. A. *1920*, 347, 348, 453–479, 591–6, 615–18 (rev.); *1921*, 149 (ob.), 251–263 (revs.), 286 (rev.), 422, 424, 633 (rev.); *1922*, 77, 107 (rev.), 135 (rev.), 380; *1923*, 330 (ob.), 284 (rev.), 619; *1924*, 147 (ob.), 656; *1925*, 215–236, 304–314, 405–416; *1926*, 489, 507; *1927*, 157 (rev.), 368–375 (revs.), 849, 853; *1928*, 169 (rev.), 711, 931 (rev.).
Griffith, F. Ll. *1929*, 885 (rev.).
Gtsos-mo-glin. *1928*, 591.
"Guava." *1927*, 559.
Gudea Statuette. *1927*, 765.
Guest, A. R. *1920*, 629–636 (rev.); *1921*, 455 (rev.), 620–7 (revs.); *1922*, 457 (rev.), 595 (rev.), 636 (rev.); *1923*, 123 (rev.), 405 (Pls.), 466–471 (revs.); *1924*, 116 (rev.); *1925*, 153–163 (revs.); *1926*, 57, 332–6 (revs.); *1927*, 571–4 (revs.), 898–901 (revs.); *1928*, 208–211 (revs.).
Guillaume, A. *1924*, 43–63; *1926*, 353 (rev.), 756 (rev.).
Gul Chandar. *1922*, 346.
Gula. *1929*, 1–18.
"Gunbri." *1928*, 25.
"Gunibri," *1928*, 29.
Gupte, Y. R. *1924*, 94; *1928*, 400.
Gurdon, P. R. *1923*, 303 (rev.); *1924*, 712 (rev.); *1925*, 763 (rev.); *1927*, 611–16 (revs.).
Gurner, C. W. *1927*, 322; *1928*, 131.
Gurshasp. *1922*, 339.
Gypsy Lore Soc. *1926*, 313.
Hachisuka, M. U. *1924*, 585 (Pl. 2).
Hagopian, G. *1921*, 457; *1922*, 461 (rev.).
Haig, T. W. *1921*, 585; *1922*, 319–372; *1924*, 73–271 (rev.); *1925*, 715, 813 (ob.); *1926*, 780 (rev.); *1927*, 378 (rev.), 621–7 (revs.); *1928*, 412–429 (revs.); *1929*, 407–410 (revs.).
Haji Sa'id al-Sarsari. *1922*, 353.
Hajji-ad-Dabir. *1921*, 547.
al-Hakim, Mosque of. *1923*, 573.
Hall, H. R. *1921*, 646 (rev.).
Hamm-(Gatau). *1922*, 77.
Hammad. *1925*, 428.
Hammurabi, Code. *1920*, 489–515.
Hamza of Ispahan. *1924*, 361.
Harrian. *1925*, 277.
Harsa and Christianity. *1928*, 629.
Hartland, E. *1920*, 372 (rev.).
Harun al-Rashid. *1925*, 433.
Hasan, Hadi. *1929*, 898–900 (revs.).
Hasluck, M. *1929*, 289.
Hassan b. Thabit. *1925*, 446.
Havell, E. B. *1920*, 349–351.
Haza Tribe. *1926*, 311; *1927*, 51–85.
Hdzom-smad Hdzom-stod. *1925*, 564.
Hellebore. *1924*, 669.
Hepat. *1925*, 279.
Herat. *1923*, 1, 337.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Hertz, W. A. *1927*, 375 (rev.); *1929*, 934 (rev.).
Hierapolis. *1922*, 581.
Hieroglyphs, Kasko-Hittite. *1922*, 563.
Highway of Europe and Asia. *1929*, 422.
Hillelson, S. *1926*, 354 (rev.).
Hindi and Urdu words. *1929*, 603.
Hippokoura. *1929*, 273.
Hira-Hadagalli grant. *1923*, 90.
Hiriyanna, M. *1923*, 259; *1924*, 96.
Hirschfeld, H. *1920*, 250 (rev.), 573–582, 656 (rev.); *1921*, 211–237; *1922*, 141 (rev.); *1923*, 419; *1924*, 136–8 (revs.), 260; *1925*, 150; *1926*, 349, 580 (rev.); *1927*, 402 (rev.), 575 (rev.), 920 (rev.); *1928*, 704 (rev.); *1929*, 186 (rev.) 676–680 (revs.), 906 (rev.).
Hittite, Proto-. *1924*, 245–255.
Hittites. *1928*, 257.
Hiuan-tsang. *1920*, 447; *1927*, 690.
Hobson, R. L. *1925*, 561 (rev.).
Hodson, T. *1922*, 104 (rev.).
Hoernle MS. Papers. *1923*, 551.
Hoernle MSS. *1925*, 110.
Holdich, T. H. *1923*, 101 (rev.), 148 (rev.).
Holmyard, E. J. *1929*, 209.
Honan Relics. *1929*, 29, 382.
Hopkins, L. C. *1920*, 106 (rev.), 653–5 (rev.); *1921*, 29–45 (Pl.), 451 (rev.); *1922*, 48–75 (Pl.); *1923*, 382, 472 (rev.); *1924*, 140 (rev.), 273 (rev.), 407–434 (Pl.), 462 (rev.); *1925*, 127 (rev.), 451–478 (Pls.), 754 (rev.); *1926*, 301, 461–486 (Pls.); *1927*, 380 (rev.), 769–789 (Pl.); *1928*, 327–337; *1929*, 412 (rev.), 557 (Pl.).
Horn of Alexander the Great. *1926*, 500.
Hulagu. *1922*, 346.
"Hundreds" (The). *1921*, 584.
Hungarian Scholars. *1928*, 990.
Hsinglung Sheng. *1926*, 206.
Humbaba. *1926*, 440.
Hurrian Sala(s). *1927*, 318.
Husayna. *1927*, 4.
Hutton, T. H. *1927*, 103.
Hyksos Period. *1923*, 169.
Ibn Battuta. *1929*, 791.
Ibn Ash-Shajari. *1926*, 96.
Ibn Ez Zaiyat. *1926*, 57.
Ibn Hani. *1926*, 629–642.
Ibn Jubayr. *1928*, 269.
Ibn Khurdadhbih. *1928*, 509.
Ibn Muqaffa and the Burzoe Legend. *1926*, 503.
Ibn Qutaiba. *1921*, 119.
Ibn Taghri Birdi. *1926*, 4.
Idin-Dagan as Tammuz. *1926*, 15–42.
Imam Riza. *1920*, 535–563.
Immortals, Eight. *1922*, 397–426.
India, Ancient Geography. *1929*. 113.
India, Aryan Invasion. *1920*, 31.
India Office Catalogue. *1927*, 846.
Indian Antiquary. *1922*, 273; *1924*, 100.
Indra. *1924*, 444.
"Infallibility" Decree. *1924*, 591–608.
Inscriptions—
A-Anni-Padda. *1928*, 626.
Andhau. *1925*, 10.
Angora. *1927*, 320.
Arabic (Textiles). *1923*, 405.
Bulgar-Madan. *1922*, 544.
Darius. *1926*, 433.
Egypto-Karian. *1920*, 85.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Hathigumpha. *1922*, 83.
Herat. *1926*, 290.
Hittite Hieroglyphic. *1925*, 707.
Junagadh. *1925*, 12.
Kara. *1927*, 693.
Kufic. *1922*, 257.
Kushana. *1924*, 399.
Mathura. *1924*, 399; *1928*, 140, 394.
Mesha. *1920*, 175–184.
Moscho-Hittite. *1927*, 699–715.
Nasik. *1925*, 1.
Ordek-burnu. *1922*, 543.
Persian Cuneiform. *1921*, 419.
Phœnician. *1923*, 35–73; *1927*, 791.
Sippar. *1925*, 94.
Taxila. *1920*, 136, 203, 319; *1922*, 37; *1928*, 137.
Ur. *1927*, 791.
Vannic. *1929*, 297–336.
Yuzghat. *1924*, 645–655.
Institute of Historical Research. *1922*, 274.
Iramakudam. *1922*, 165.
Iranian (Miscellaneous) Notes. *1925*, 288.
Isin. *1922*, 430.
Ishtar as the Planet Venus. *1926*, 15–42.
Islam, Defence of. *1920*, 481.
Islam and Free Will and Predestination. *1924*, 43–63.
Islam and the Protected Religions. *1927*, 479.
Itti-Nabu-guzu and his Slave-Women. *1926*, 107.
Ivanow, W. *1920*, 535–563; *1922*, 579; *1923*, 1–34, 337–382; *1926*, 405–431; *1927*, 1–41, 95–7; *1929*, 441, 863.
Jaba. *1925*, 402.
Jackson, A. V. Williams. *1923*, 281 (rev.); *1924*, 213–227.
Jahangir. *1924*, 440.
Jamharat al-Ansab. *1925*, 507.
Janicsek, S. *1929*, 791.
Jauna, Muhammad. *1922*, 325.
Javan. *1921*, 53.
Jhana. *1927*, 194.
Jihonika. *1928*, 138.
Jnanagupta. *1927*, 256.
John of Damascus. *1924*, 47.
Johns, C. W. H. (the late). *1928*, 519–554.
Johnston, E. H. *1925*, 738–747 (revs.); *1927*, 209–226; *1929*, 77–102, 537–552.
Jompon. *1920*, 348.
Jordan of Sévérac. *1928*, 349–376.
Jouveau-Dubreuil, G. *1926*, 715.
Jvalaprasad. *1929*, 586–599.
Kabir. *1920*, 186.
Ka-dag. *1928*, 565.
Kafir Languages. *1927*, 558.
Kalidasa. *1921*, 367; *1926*, 725.
Kalila wa Dimna. *1924*, 609.
Kalmucks. *1926*, 257–267.
Kamakhya, Temple of. *1929*, 247.
Ka-mo-lang-ka identified. *1920*, 7–9, 447–452.
Kanz al-tuhaf. *1926*, 248.
Kandalanu. *1928*, 321, 622.
Kaniska. *1920*, 201 et seq.
Kantakasela. *1929*, 113.
Ka-p'i-li country. *1920*, 227.
Kappina. *1927*, 206.
Karaite poems. *1920*, 97.
Karduchi. *1923*, 394.
Karganrud. *1920*, 280.
Karlgren, B. *1928*, 769–813.
Karsa, Karsapana. *1924*, 93.
Karshuni. *1928*, 891.
Kas and Kusa. *1921*, 54.
Kasmiri dialect. *1929*, 606.
Kashmiri *swar*. *1926*, 507.
Kausambi. *1927*, 689; *1928*, 400.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Kautilya. *1929*, 77–102.
Kavya-prakasa. *1927*, 505–520.
Keith, A. B. *1920*, 242–8 (rev.), 627 (rev.).
Kennedy, J. *1920*, 31–48.
Kha-Dro. *1928*, 561.
Khakaratas. *1926*, 656.
Khalaf-al-Ahmar. *1925*, 429.
Khalmi-s. *1922*, 540.
Khansa. *1925*, 439.
Khari Boli. *1926*, 717 ; *1927*, 847.
Khattusas. *1928*, 258.
Khotan. *1924*, 671.
Khotan Prakrit. *1927*, 544–848 ; *1928*, 399.
Khumbaba. *1923*, 567.
Khur and Mihrijan dialects. *1926*, 423.
Khvaja Jahan. *1922*, 340.
Khwaja Safar. *1922*, 17.
King, Marie. *1925*, 778 (rev.).
al-Kisa'i. *1924*, 268.
Kish. *1928*, 864.
Kishlu Khan. *1922*, 341.
Kisimkazi Mosque. *1922*, 257.
Kitab Ma 'ani. *1921*, 119.
Kitab al-Jim of Abu 'Amr Ash-Shaibani. *1925*, 701.
Kitabu-l Qadar. *1924*, 43–63.
Kitchen, H. *1929*, 415 (Lecture).
Kkamrisch, Stella. *1922*, 454 (rev.).
Kola dynasty. *1923*, 412.
Konow, Sten. *1920*, 607–610 (rev.) ; *1921*, 244 ; *1923*, 313 (rev.) ; *1927*, 541, 646 (ob.), 929 (ob.) ; *1928*, 137.
Kosar of Tamil Literature. *1923*, 609.
Krenkow, F. *1921*, 119, 612 (rev.) ; *1922*, 43, 91 ; *1923*, 136 (rev.), 486 (rev.), 627–30 (revs.) ; *1924*, 133 (rev.), 268, 334 (ob.), 728 (rev.) ; *1925*, 701, 768–775 (rev.) ; *1926*, 96, 275, 376 (rev.), 539–544 (revs.), 724 ; *1928*, 192–204 (revs.) ; *1929*, 170–4 (revs.), 668–676 (revs.).
Krishnan-attam. *1924*, 233.
Kuchean Names of Drugs in Sanskrit. *1925*, 623–638.
Kuchisfahan. *1920*, 291.
Ksatrapas. *1926*, 656.
Kufic. *1923*, 83, 580.
Kuh Giluyeh Tribes. *1923*, 217.
Kuhdum. *1920*, 288.
Kujula Kadphises. *1928*, 142.
Kulasekhara. *1925*, 269.
Kumarajiva. *1927*, 256.
Kundamala. *1924*, 261. 663.
Kur . Gi . Hu, Kurku = the Crane. *1929*, 339.
Kurds. *1921*, 563 ; *1923*, 393, 403.
Kermani dialect. *1928*, 302.
Kuru-Pancalas. *1920*, 99.
Kusana. *1925*, 110.
Kushanas. *1928*, 139.
Kusians. *1922*, 549.
Kussar site. *1928*, 257.
Laet, John de. *1923*, 85.
Lagash. *1922*, 394.
Land-Revenue System of the Moguls. *1922*, 19–35.
Lane, D. Austin. *1923*, 209–231.
Langdon, S. *1920*, 325–331, 489–515 ; *1921*, 169–191, 572 ; *1922*, 430, 468 (rev.), 607 (rev.), 613 (rev.), 621 (rev.) ; *1923*, 251 ; *1924*. 65, 654 ; *1925*, 165–173 (revs.), 487–497, 550 (rev.), 717, 718 ; *1926*, 15–42 ; *1927*, 43, 323, 529, 535, 765 (Pls.) ; *1928*, 143, 221 (rev.), 321, 519, 708 (rev.), 843 ; *1929*, 343, 366–382 (revs.).
Language, Hittite. *1920*, 49.
Languages, Indo-Aryan. *1922*, 381.
Language, Karen. *1920*, 347.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Language, Khowar. *1929*, 509.
Language, Shina. *1924*, 1–42, 177–212, 435, 656; *1925*, 87, 304–497; *1927*, 717-764; *1929*, 509.
Legends, Hittite. *1927*, 87.
Legend, Kiskanu. *1928*, 843.
Lei Feng t'a. *1925*, 285.
Lentz, W. *1926*, 116, 298.
Leveen, J. *1926*, 790 (rev.).
Leumann, E. *1924*, 450.
Levy, R. *1923*, 121 (rev.); *1928*, 265; *1929*, 103, 391–5 (revs.).
Life an Ocean; the Body a Boat. *1926*, 716.
Lindsay, J. *1921*, 636 (rev.); *1922*, 125–7 (revs.); *1923*, 142 (rev.), 478–483 (revs.).
Linguistic Survey of India and Sir George Grierson. *1928*, 711.
Liravi-Kuh Tribe. *1923*, 221.
Lockhart, J. H. S. *1927*, 643 (rev.); *1928*, 649 (rev.); *1929*, 197 (rev.), 410 (rev.), 944 (rev.).
Lorimer, D. L. R. *1924*, 1–42, 177–212; *1927*, 507–536, 717–764; *1928*, 287–319, 654 (rev.).
Lugal-marda. *1922*, 541.
Luro-Kurdish group of dialects. *1926*, 406.
Lute (Arabian). *1929*, 490.
Macdonald, D. B. *1922*, 505–521; *1924*, 353–397.
Macdonell, A. A. *1920*, 636–48 (rev.); *1921*, 127 (rev.); *1922*, 113 (rev.), 433 (rev.).
Mackay, E. *1925*, 697 (Pl. X).
Mackichan, D. *1920*, 622–7 (rev.).
MacMichael, H. A. *1928*, 992.
Madan-kuttu. *1924*, 236.
Madhava-Varman. *1928*, 400.
Madhyamika Doctrine. *1929*, 63.
Magliabecchian Library. *1927*, 120.
Maha-Kavya. *1927*, 109.
Mahabhasya Passage, Interpretation of a. *1925*, 502.
Mahayana (Chinese) Catechism in Tibetan and Chinese characters. *1929*, 37–76.
Maharashtra Purana. *1925*, 674.
Mahayanist Buddhism. *1924*, 444.
Mahmudis, coinage of. *1927*, 101.
Mahru. *1922*, 579.
Malabar. *1922*, 161.
Mamluks. *1921*, 3.
Mamulanar. *1923*, 94.
Mandana-Misra. *1923*, 259; *1924*, 96.
Mandrake and Tragacanth in Cuneiform. *1926*, 100.
Manen, J. van. *1926*, 716.
Mani, Injunctions of. *1924*, 213–227.
Manichaean (Chinese) Hymnal from Tun-Huang. *1926*, 116, 298.
Manichæan MSS. from Tun-Huang. *1925*, 113.
Man-istisu. *1920*, 21.
Manucci. *1922*, 88.
Manyoshu. *1921*, 193.
Marduk. *1929*, 285.
Margoliouth, D. S. *1920*, 232; *1921*, 293 (rev.); *1922*, 120 (rev.), 275-284 (revs.); *1923*, 282–3 (revs.), 329, 638 (revs.); *1924*, 117 (rev.); *1925*, 190 (ob.), 417–449, 507, 782 (rev.); *1926*, 385 (ob.), 568 (rev.); *1927*, 163 (rev.), 398 (rev.), 845, 901–7 (revs.), 937 (ob.), 938 (ob.); *1928*, 703 (rev.), 960–8 (revs.); *1929*, 384–390 (revs.).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Margoliouth, J. P. *1924*, 311 (rev.).
Martinovitch, N. N. *1929*, 445.
Maruts. *1929*, 737.
Marzubani. *1925*, 434.
Masal. *1920*, 282.
Masuraksa. *1929*, 87.
Maunder, A. S. D. *1920*, 618 (rev.).
Ma'une. *1923*, 87.
Mauryas. *1923*, 96 ; *1929*, 87.
Meade, G. W. *1928*, 971 (rev.).
Merutunga. *1920*, 333–341.
Mills, J. P. *1925*, 731 (rev.).
Mingana, A. *1920*, 481–488 ; *1921*, 117, 287 (rev.) ; *1922*, 429, 523 ; *1923*, 87, 417 ; *1924*, 97 ; *1928*, 891.
Mir Mirjan. *1921*, 554.
Mirjan Mosque. *1928*, 609.
Mironov, N. D. *1927*, 241–279.
Misians. *1922*, 550.
Mitanni. *1926*, 667.
Mitlani. *1928*, 51–62.
Miyamoto, S., and others. *1929*, 37–76.
Mizmar and Nay. *1929*, 119.
Mogul Unit of Measurement. *1927*, 102.
Monahan, F. J. *1923*, 623 (rev.).
Mongoose. *1923*, 619.
Moreland, W. H. *1920*, 517–533 ; *1921*, 437–9 (revs.) ; *1922*, 19–55 ; *1923*, 85, 303 (rev.) ; *1926*, 43–56, 447–459 ; *1927*, 101, 102.
Moriyas of the Sangam Works. *1924*, 664.
Morse, H. B. *1920*, 364–8 (rev.), 620–2 (rev.) ; *1922*, 227–254, 573 ; *1927*, 313 (Pl.), 381–8 (revs.) ; *1928*, 459–466 (revs.).
Moses B. Samuel. *1920*, 97.
Moule, A. C. *1921*, 83–115 ; *1925*, 247–261, 285, 565 (rev.), 716 ; *1926*, 140–153 (revs.), 193–211, 726 (rev.) ; *1927*, 120, 388 (rev.) ; *1928*, 349–376, 406, 448 (rev.), 899 (rev.), 907 (rev.) ; *1929*, 197.
Mrcchakatika, *1923*, 593.
Mughni. *1926*, 250.
Muhalhil. *1925*, 421.
Muhammad, Mirza Agha. *1927*, 443–470.
Mukherjee, B. L. *1921*, 241.
Mullo-Weir, C. J. *1929*, 1–19, 281, 285, 553, 761.
Muntakhab-al-Tavarikh. *1921*, 585.
Murjites. *1924*, 47.
Murundas. *1925*, 81.
Musalla of Herat. *1926*, 290.
Mushakas. *1922*, 168.
Musical Instruments. African : *1928*, 25, 35, 509. Arabian : *1928*, 509–518 ; *1929*, 493, 502. Babylonian : *1925*, 299. Reed-Pipes : *1929*, 495.
Musical Manuscripts. Arabian in Bodleian : *1925*, 639–654. Identified : *1926*, 91.
Musical Modes. *1926*, 93.
Musical Terms. *1921*, 169–191.
Musical Theory, Arabian Influence. *1925*, 61–80.
Mustanjid. *1928*, 149.
Mu'tazilites. *1924*, 47.
Nabataeans. *1927*, 529.
Nabighah Jadi. *1925*, 445.
Nabonidus. *1925*, 293 ; *1926*, 105.
Nabopolassar Chronicle. *1928*, 624.
Nafar Tribe. *1923*, 214.
Nag-Sod. *1928*, 561.
Nahapana and Castana. *1926*, 650.
Nahapana and the Saka Era, Pt. 2, Pl. I. *1925*, 1–19.
Na'ima of Samnan. *1927*, 6.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Nain dialect. *1926*, 405.
Nairs. *1923*, 265.
Nalbas Same = Ishtar. *1925*, 717.
Nalodaya. *1925*, 263–275.
Nam Language. *1928*, 630.
Nam-mah-ni. *1926*, 687.
Narada Pancharatra. *1926*, 492.
Naram-Sin. *1928*, 41.
Nasalization in Indo-Aryan Languages. *1922*, 381.
Nasik Caves. *1926*, 652.
Nasir-al-din. *1924*, 78.
Naville, E. *1926*, 306.
Nay. *1929*, 119.
Nayini dialect. *1928*, 287.
Nayyir. *1927*, 6.
Nazim, Muhammad. *1927*, 485–495, 846 ; *1928*, 233 ; *1929*, 583.
Nettipakarana. *1925*, 111.
Nicholson, R. A. *1920*, 381–3 (revs.), 657–662 (rev.) ; *1922*, 111 (rev.), 589 (rev.) ; *1923*, 264, 290–8 (revs.) ; 1924, 491–8 (revs.) ; *1925*, 536–547 (revs.) ; *1926*, 378 (ob.) ; *1928*, 437–443 (rev.) ; *1929*, 654–656 (revs.).
Nilakantha. *1925*, 274.
Nimat Allah. *1924*, 77.
Nimrod. *1923*, 569.
Nisan Festival. *1924*, 69.
Nitisastra. *1929*, 87.
Nizamiya Madrasa at Baghdad. *1928*, 265, 609.
Nob-ched-po. *1928*, 568.
Nob-sod. *1928*, 586.
Noel-Armfield, G. *1920*, 258–262 (rev.).
No-le and Ratuara. *1925*, 498.
Notes of the Quarter.
1920, 265, 397–436, 675 ;
1921, 153, 309, 481, 675 ;
1922, 149, 309, 475, 641 ;
1923, 159, 319, 492, 671 ;
1924, 149, 336, 506, 730 ;
1925, 191, 382, 573, 821 ;
1926, 168, 389, 589, 808 ;
1927, 173, 412, 649, 940 ;
1928, 227, 468, 749, 992 ;
1929, 212, 415, 685, 952.
Noyce, F. *1923*, 113 (rev.), 635–8 (revs.) ; *1926*, 343–6 (revs.).
Nuzha. *1926*, 251.
Nyayapravesa. *1927*, 7.
Obituary Notices—
'Abbas, Abdu 'l Baha. *1922*, 145.
Ameer Ali, Syed. *1928*, 986.
Anderson, J. D. *1921*, 149.
Ansari, S. L. *1921*, 307.
Basset, R. *1924*, 334.
Bate, J. D. *1923*, 330.
Bell, Gertrude. *1926*, 804.
Beveridge, Mrs. A. S. *1929*, 729.
Bhandarkar, R. G., *1925*, 815.
Bobbili, The Maharaja of. *1920*, 674.
Bode, Mrs. M. H. *1922*, 307.
Browne, E. G. *1926*, 378.
Carpenter, J. E. *1927*, 936.
Casartelli, L. C. *1925*, 380.
Clay, A. T. *1925*, 380.
Clermont-Ganneau, M. *1923*, 328.
Codrington, O. *1921*, 303.
Cordier, H. *1925*, 571.
Crooke, W. *1924*, 147.
Curzon, Lord. *1925*, 376.
d'Alviella, Goblet. *1925*, 814.
Dames, M. L. *1922*, 301.
Davids, T. W. Rhys. *1923*, 323.
Diosy, A. *1923*, 158.
Durand, Sir H. M. *1924*, 504.
Edwardes, S. M. *1927*, 170.
Frazer, R. W. *1922*, 146.
Gairdner, W. H. T. *1928*, 760.
Ganapati Sastri, T. *1926*, 584.
Goldziher, I. *1922*, 143.
Gray, G. B. *1923*, 329.
Hill, S. C. *1926*, 583.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Howarth, H. *1923*, 670.
Hultzsch, E. *1927*, 646.
Joly, H. L. *1920*, 669.
Karabacek, J. Ritter v. *1920*, 671.
Kennedy, J. *1920*, 395.
Kerallain, R. de. *1929*, 347.
King, L. White. *1925*, 812.
Kuhn, E. *1920*, 674.
Legge, G. F. *1923*, 151.
Lewis, Mrs. A. S. *1926*, 385.
Lidzbarski, M. *1929*, 872.
Lyall, Sir C. J. *1920*, 667.
Macartney, C. H. H. *1925*, 190.
McDouall, W. *1925*, 188.
Naville, E. *1927*, 407.
Nies, J. *1922*, 474.
Pargiter, F. E. *1927*, 409.
Rice, B. L. *1927*, 934.
Rivett-Carnac, H. *1923*, 491.
Rylands, W. H. *1922*, 637.
Sarruf, Y. *1927*, 937.
Senart, E. *1928*, 751.
Sewell, R. *1926*, 166.
Smith, V. A. *1920*, 391.
Spooner, D. B. *1925*, 375.
Tabard, Rev. A. M. *1926*, 807.
Tawney, C. H. *1923*, 152.
Thomsen, V. *1927*, 927.
Vijaya Dharma Suri. *1923*, 154.
Vidyabhusana, Satischandra. *1920*, 673.
Weir, T. H. *1929*, 123.
Whinfield, E. H. *1922*, 473.
Wollaston, A. N. *1922*, 305.

Oboe (Arabian). *1929*, 499.
O'Brien-Butler, P. E. *1925*, 560 (rev.).
Ohind, *1927*, 485.
Ohrt, F. *1922*, 86.
Oldham, C. E. A. W. *1925*, 373 (ob.), 554 (rev.); *1927*, 608 (rev.), 618 (rev.); *1928*, 169 (rev.), 688–692 (revs.); *1929*, 155 (rev.), 634–8 (rev.).
O'Leary, De Lacy. *1924*, 309–311 (revs.).
Ophir. *1924*, 260.
Oropus. *1921*, 47; *1922*, 266, 580.
Ostrakon. A. *1929*, 584.
Pada-Taditaka of Syamilaka. *1924*, 262.
Padmasana. *1922*, 533.
Page, W. Sutton. *1925*, 747–750 (revs.).
Paisaci. *1921*, 244, 424.
Palymyrene Tessera. *1922*, 270.
"Pambu" in Tamil. *1923*, 619.
Pancalas. *1920*, 100.
Panjabi Aspirates and Tones. *1926*, 113, 299.
"Papa" in Sanskrit. *1923*, 619.
Pargiter, F. E. *1920*, 99–102, 114–18 (rev.), 395, 391–5 (obs.); *1921*, 610–11 (revs.); *1922*, 633 (rev.); *1923*, 140 (rev.), 484 (revs.), 551; *1924*, 117 (rev.), 692–4 (revs.); *1925*, 110.
Paris Conference. *1920*, 590.
Parlett, H. *1928*, 643–8 (revs.).
Parnadatta. *1928*, 904.
Pashai. *1925*, 406.
Pataliputra. *1928*, 395.
Pataliputta. *1929*, 27.
Pauskarasadi. *1928*, 339.
Payalasa. *1927*, 695.
Peet, T. E. *1924*, 327 (rev.).
Pelliot, P. *1925*, 113.
Pelsartt, Francisco. *1923*, 85.
Penzer, N. *1921*, 304; *1925*, 151; *1926*, 363 (rev.).
Perera, H. S., and *Jones*, D. *1921*, 209.
Peri. *1929*, 518.
Persian Talish. *1920*, 280.
Peshitta Old Testament. *1923*, 269.
Petenikas of Asoka's Rock Edict XIII. *1923*, 88.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Petersen, F. G. *1926*, 725.
H . Phags . pa Alphabet.
Philby, H. St. J. *1926*, 804 (ob.).
Philip Arrhidæus, death of. *1928*, 618.
Phillott, D. C. *1927*, 579 (rev.) ; *1928*, 668.
Philological Note. *1924*, 654.
Philosophy of Language, Indian. *1925*, 21.
Phœnix, Identification of the Chinese. *1924*, 585 (Pl. 2).
Phonetics of Gilgit Dialect. *1924*, 1–42, 177–212, 435.
Phonetics, Indo-Aryan. *1927*, 227.
Phonology, Gujarati. *1921*, 329–365, 505–544.
Phonology, Southern Kurmanji. *1922*, 191–226.
Pictographic Reconnaissances. *1922*, 48–75 ; *1923*, 382 ; *1924* (407–34 (Pl.) ; *1926*, 461–486 (Pls.) ; *1927*, 769–789 (Pl.) ; *1928*, 327.
Pictures of the Royal Asiatic Society. *1924*, 81.
Pidar-Sukhta. *1927*, 96.
Pig in Ancient Egypt. *1928*, 597–608.
Pilcher, E. J. *1920*, 343–6 ; *1921*, 601.
Pinches, *T. G.* *1920*, 21–4, 25–9, 107 (rev.), 583–9, 611–15 (rev.) ; *1921*, 267–71 (revs.), 383, 657–661 (revs.) ; *1923*, 104 (rev.), 302 (rev.) ; *1924*, 103–8 (revs.), 694–9 (revs.) ; *1925*, 356–361 (revs.), 780 (rev.), 794 (rev.) ; *1926*, 105, 544–50 (revs.) ; *1927*, 566 (rev.), 887 (rev.) ; *1928*, 960 (rev.) ; *1929*, 181–5 (revs.), 680 (rev.).
Pippalivana. *1924*, 664.
Pir-i Ansar of Harat. *1929*, 103.
Poems, Sabzawari Dialect. *1927*, 1–41.
Poetry, Arabic. *1925*, 417–449.
Poetry, Guran. *1921*, 57–81.
Poetry, Khorasani. *1927*, 1.
Poets, Arabic. *1922*, 43.
Polo, Marco. *1928*, 406.
Popper, W. *1926*, 1–14.
Portuguese in India and Arabia. *1922*, 1–18 ; *1929*, 545.
Portuguese in Indian Ocean. *1921*, 1–28.
Poussin, L. de la Vallee. *1925*, 775–8 (revs.) ; *1929*, 347.
Poznanski, S. *1920*, 97.
Prabandha Chintamani. *1920*, 333–341.
Prabhavatigupta. *1924*, 94.
Prakrit Dictionary. *1924*, 450.
Prakrit of Khotan. *1927*, 544, 848 ; *1928*, 399.
Prakrit, Old North-Western. *1927*, 541, 849.
Prakritica. *1925*, 215–236.
Pravamnaga. *1927*, 123.
Prayaga. *1927*, 691.
" Protected Religions " in Islam. *1927*, 479 ; *1928*, 485.
Proteus. *1923*, 191.
Proverbs, Arab. *1923*, 419.
Proverbs, Mongolian. *1926*, 257–267.
Przyluski, J. *1929*, 273.
Public School Gold Medal. *1923*, 161 ; *1924*, 152 ; *1925*, 193 ; *1926*, 170 ; *1929*, 417.
Purusa. *1929*, 742.
Qadarites. *1924*, 45.
Qalqashandi. *1926*, 7.
Qansawh al-Ghawri. *1921*, 549.
Qanun. *1926*, 247.
Qardu. *1923*, 397.
Qashqai tribe. *1923*, 213.
Qasida by Rudaki. *1926*, 213–237.
Qutb-al-din Mubarak Shah. *1922*, 328

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Qutb-ud-din. *1921*, 546.
Qutlugh Khan. *1922*, 349.
Rabino, H. L. *1920*, 277–296.
Rach. *1929*, 522.
Rajadhiraja I. *1922*, 162.
Rajaraja I. *1922*, 162.
Rajasekhara. *1921*, 244, 424.
Rajendra-Chola I. *1922*, 162.
Ramananda. *1920*, 185, 591; *1921*, 239; *1922*, 373.
Ramanuja. *1920*, 187.
Rameses II. *1929*, 19.
Randle, H. N. *1925*, 345 (rev.); *1929*, 631–4 (revs.).
Ranikuh. *1920*, 295.
Rasht. *1920*, 287.
Rassam Cylinder. *1928*, 547.
Rethare Budruk Plates. *1928*, 400.
Ratuara. *1925*, 498.
Reid, F. W. *1923*, 114 (rev.), 115 (rev.).
Report of the Joint Session of R.A.S., Soc. As., Amer. Or. Soc., and Italian Or. Soc. *1920*, 123.
Revenue System of Sher Shah. *1926*, 447.

REVIEWS OF BOOKS

(Author's Names)

Abbott, J. *1926*, 343.
Abdu'l-Hamid, Maulavi. *1923*, 295.
'Abdu'l Razzaq al-Ras'ani. *1925*. 542.
'Abd'ur-Rahman. *1928*. 668.
Abegg, E. *1924*, 293.
Abrahams, I. *1927*, 640.
Abu Du'aib. *1929*, 391.
Achan, P. Anujan. *1927*, 604.
Acharya, M. R., and *Sastri*, S. K. *1923*, 431.
Acharya, P. K. *1928*, 943.
Acta Orientalia, Vol. I. *1924*, 476.

REVIEWS OF BOOKS (*cont.*)

Ahad Nameh. *1925*, 785.
Ahmad-ul Umri. *1928*, 416.
Aiyangar, S. K. *1924*, 684; *1925*, 129; *1929*, 137.
Aiyar, K. V. S. *1924*, 476; *1925*, 118.
Aiyar, R. S. *1925*, 364.
Akhond Molla Fathali Ispahani. *1929*, 393.
Ali, Syed Ameer. *1924*, 724.
Allahabad University Studies. *1926*, 124; *1927*, 144.
Allan, J. *1929*, 359.
Altekar, A. S. *1928*, 682.
Amedroz, F., and *Margoliouth*, D. S. *1923*, 293.
Anderson, J. D. *1920*, 615–18.
Andersson, J. G. *1926*, 559.
Andrae, T. *1925*, 135.
André, P. J. *1925*, 158.
Andrews, F. H. *1921*, 302.
Anesaki, M. *1923*, 124.
Angelino, P. de Kat. *1924*, 120.
Annandale, N. *1925*, 741.
Annual of the American Schools of Oriental Research. *1929*, 185, 881.
Anstey, L. M. *1924*, 477.
Apastamba, Srauta Sutra. *1921*, 592.
Apastamba. *1925*, 528.
Apcar, A. *1921*, 283.
Arabia, Handbook of. *1923*, 471.
Aravamuthan, T. G. *1926*, 760.
Archæological Survey of India. Annual Report, 1924–5. *1929*, 144.
Archbold, W. A. J. *1928*, 412.
Archer, J. C. *1925*, 751.
Armstrong, L. E. *1925*, 737.
Arne, T. J. *1926*, 559.
Arnold, T. W., and *Nicholson*, R. A. (Eds.). *1924*, 123.
Arnold, T. W. *1925*, 156, 784; *1929*, 403.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Ars Asiatica. *1923*, 126 ; *1926*, 562.
Arya - vidya - vyakhyana - mala. *1924*, 476.
'Asakir Tarikh Dimashq. *1921*, 612.
Asia Major. *1925*, 370 ; *1927*, 142.
Asin, M. *1927*, 135.
Assam Research Society. *1927*, 615.
Asvaghosa. *1929*, 325.
Atharvavediya Pancha-patalika. *1921*, 478.
Autran, C. *1921*, 646 ; *1928*, 661.
Ayscough, F. *1924*, 333, 465 ; *1926*, 151.
Ayyangar, K. *1921*, 616.
Ayyangar, M. S. R., and *Rao*, S. *1924*, 676.
Ayyangar. P. T. S. *1928*, 668.
Ayyar, A. S. R. *1926*, 343, 764.
Ayyar, P. V. J. *1923*, 141.
Ayyar, R. S. V. *1929*, 148.
Babinger, F. *1926*, 353 (ed.).
Babylonian Talmud. *1922*, 635.
Bacot, J. *1929*, 648.
Badarayana. *1925*, 369.
Bader, C. *1926*, 358.
Bagh Caves in Gwalior State. *1928*, 435.
Bagchi, P. C. *1928*, 676.
Baker, D. C. *1926*, 140.
Bailey, T. Grahame. *1928*, 663.
Baillet, J. *1921*, 606 ; *1925*, 721.
Ball, U. N. *1923*, 128.
Ballard, G. A.
Banabhatta. *1922*, 448.
Bandyopadhyaya, N. C. *1928*, 671, 935.
Banerji, B. *1926*, 527 ; *1928*, 677.
Banerji, R. D. *1925*, 742 ; *1929*, 151.

REVIEWS OF BOOKS (*cont.*)

Banerji Sastri, A. *1928*, 669.
Banhatti, H. D. *1926*, 773.
Barakatullah, M. *1925*, 541.
Barenton, H. de. *1921*, 635.
Barnett, L. D. *1929*, 619.
Bartholomae, Chr. *1925*, 540.
Barthold, V. *1928*, 926.
Barthold, W. *1929*, 172, 927.
Barua, G. C. *1923*, 303.
Basset, R. *1925*, 768; *1929*, 671.
Basu, P. *1926*, 757.
Bate, J. D. *1925*, 116.
Becker, C. H. *1925*, 752.
Bell, A. F. G. *1925*, 120.
Bell, C. *1925*, 740 ; *1929*, 644.
Bell, C. A. *1922*, 593.
Bell, E. *1924*, 711.
Bell, Gertrude, Letters of. *1928*, 204.
Bell, H. *1929*, 936.
Belvalkar, S. K. (ed. and tr.). *1925*, 369.
Bendall, C., and *Rouse*, W. H. *1923*, 276.
Berchem, M. van. *1924*, 497 ; *1927*, 571.
Berg, C. C. *1928*, 919.
Bergstrasser, G. *1929*, 661.
Bertholet, A. (ed.). *1925*, 338.
Beveridge, A. S. *1924*, 272.
Bezold, C. *1927*, 563.
Bhagavadgita. *1929*, 125.
Bhagwaddatta. *1922*, 450.
Bhandarkar Institute Annals, 1918–19. *1921*, 133.
Bhandarkar, D. R. *1923*, 651 ; *1925*, 805.
Bhandarkar, R. G. *1923*, 128.
Bharat-vars-ka-Itihas. *1924*, 476.
Bhartrihari. *1928*, 675.
Bharucha, E. S. D. *1923*, 119.
Bhat, V. G. *1925*, 802.
Bhattacarya, V. *1920*, 651.
Bhattacharyya, B. *1926*, 134, 771.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Bhattacharya, B. C. *1923*, 441, 480, 635.
Bhatt, J. *1925*, 184.
Bhatta, Y. C. *1925*, 366.
Bhattasali, N. K. *1923*, 651.
Bhattoji, Dikshita. *1922*, 300.
Bhavabhuti. *1929*, 134.
Bhela Samhita. *1923*, 277.
Bhojadeva. *1927*, 862.
Bhuyan, S. K. *1925*, 763 (ed.); *1927*, 611.
Bibliotheca Arabica Scholasticonem. *1928*, 208.
Bihar and Orissa Research Soc. Journal, Vol. XI. *1926*, 756.
Bihari. *1927*, 157.
Bilabel, Chr. Fr. *1929*, 192.
Binyon, L. *1925*, 117, 343; *1929*, 406.
al-Biruni. *1927*, 909.
Bishop, C. W. *1926*, 562.
Bittner, M. *1923*, 116.
Black, D. *1926*, 560.
Blackman, A. M. *1924*, 327.
Blackman, W. S. *1928*, 216.
Blagden, C. O. *1929*, 640.
Blakiston, J. F. *1929*, 144 (ed.).
Bloch, Chajim. *1929*, 395.
Bloch, J. *1921*, 251–263.
Bloomfield, M. *1920*, 252; *1922*, 113.
Blumhardt, J. F. *1925*, 116, 528; *1927*, 581.
Bodding, P. O. *1923*, 313; *1926*, 131; *1927*, 335.
Böhtlingh, O. *1925*, 533.
Boll, Fr. *1929*, 174.
Bonnerjea, B. *1928*, 688.
Bork, F., *Husing*, G., *Konig*, F. W. (eds.). *1927*, 566.
Borovka, G. *1928*, 971.
Bose, P. N. *1927*, 875.
Botti, G., and *Peet*, E. T. E. *1928*, 979 (eds.).
Bowen, H. *1929*, 390.

REVIEWS OF BOOKS (*cont.*)

Boyer, A. M., *Rapson*, E. J., and *Senart*, E. *1921*, 277.
Brandstetter, R. *1923*, 447; *1924*, 719; *1926*, 743.
Braun, F. u Marr. N. *1923*, 630.
Braun, F. *1923*, 630.
Braunlich, E. *1923*, 639.
Breasted, J. H. *1924*, 313.
Briggs, G. W. *1923*, 312.
British Museum, Cuneiform Texts. *1923*, 131.
Brown, A. R. *1923*, 288.
Brown, C. C. *1923*, 445; *1928*, 917.
Brown, C. J. *1921*, 475; *1923*, 651.
Brown, R. Grant. *1926*, 577.
Brown, W. H. *1929*, 177.
Browne, E. G. *1920*, 657–662; *1922*, 453, 596; *1925*, 316, *1928*, 695.
Bruce, H. *1923*, 311 (ed.).
Bruce, J. P. *1923*, 103 (tr.); *1924*, 459.
Brunnow, R. *1925*, 156.
Buchanan, F. (afterwards Hamilton). *1928*, 169.
Buddhadatta, A. P. *1924*, 303; *1929*, 163.
Buddhi, J. *1927*, 356.
Budge, E. A. W. *1921*, 272; *1923*, 300.
Buhl, F. *1926*, 331.
Burkitt, F. C. *1925*, 559.
Burlingame, E. W. *1923*, 434.
Burma Research Society Journal. *1923*, 120, 489.
Burma Archæological Survey for 1922. *1925*, 148. Do., 1924. *1925*, 736.
Burmester, O. E. H., et *Dévaud*, E. *1926*, 734.
Burski, H. A. v. *1929*, 195.
Burton, R. *1925*, 158.
Caland, W. *1924*, 290–1, 477.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Cagnola, G. *1925*, 129.
Caland, W. *1925*, 528 (tr.); *1927*, 167 (ed.), 340 (ed.), 866 (ed.).
Calcutta, Proc. and Trans. of the Second Oriental Conference, 1922. *1925*, 119.
Calcutta University, Dept. of Letters. *1923*, 462, 624; *1926*, 123; *1928*, 433.
Cambridge Ancient History, Vol. I. *1924*, 313; *1926*, 801.
Campos, J. J. A. *1920*, 238–242.
Canaan, Taufiq. *1928*, 693.
Candramani Vidyalankara. *1927*, 861.
Canney, M. A. *1929*, 678.
Carpenter, J. H. *1923*, 110.
Carter, T. F. *1926*, 140.
Casanova, M. *1923*, 292.
Casanova, P. *1921*, 596.
Cave, *S*. *1920*, 248.
Ceylon, its History, etc. *1925*, 535.
Chakravarti, Ch. *1924*, 500; *1927*, 349 (ed.).
Chakravarti, P. C. *1927*, 357 (tr.).
Chalmers, Lord. *1926*, 569; *1927*, 883.
Chanda, R. *1928*, 940.
Chardin, J. *1928*, 453.
Charles-Roux, F. *1929*, 903.
Charlesworth, M. P. *1925*, 567.
Charpentier, J. *1923*, 277, 432.
Charpentier, F., and *Charbonneaux*, J. *1929*, 891.
Chassinat, E. *1924*, 313.
Chatterjee, B. R. *1928*, 677.
Chatterji, S. K. *1928*, 666; *1929*, 160, 362.
Chauvin, V. *1924*, 127.
Chavan, V. P. *1925*, 365.
Chavannes, E. *1921*, 298.
Cheikho, L. *1921*, 293; *1923*, 283.

REVIEWS OF BOOKS (*cont.*)

Chiang-Hung-Yuan. *1926*, 562.
Chiera, E. *1925*, 356; *1926*, 318.
Childe, V. G. *1927*, 143; *1928*, 971 (tr.).
Chinese Art. *1925*, 561.
Chinese Recent Publications. *1922*, 97–102.
Christensen, A. *1926*, 536; *1929*, 175.
Chu-Chia-Chien. *1923*, 271.
Chu Hsi. *1923*, 103.
Clay, A. T. *1923*, 104; *1924*, 111; *1925*, 780.
Clifton, V. *1928*, 154.
Coates, H. H. *1926*, 572.
Codrington, H. W. *1928*, 443.
Cœdes, G. *1924*, 718; *1929*, 936.
Cohen, A. *1922*, 635 (tr.).
Cohen, M. *1926*, 316.
Contenau, G. *1920*, 602; *1923*, 104, 131, 626; *1927*, 569; *1928*, 466, 957–8.
Coomarswamy, A. K. *1924*, 281; *1925*, 161, 534; *1926*, 764; *1927*, 644, 873; *1929*, 882.
Coptic Theotokia. *1924*, 307.
Cordier. Bibliographie des Œuvres de H.
Cordier, H. *1921*, 451; *1923*, 273, 315; *1924*, 462.
Corpus Inscriptionum Elamicarum. *1927*, 566.
Corpus Inscriptionum Indicarum, Vol. I, new ed. *1926*, 137.
Coupland, R. *1927*, 385.
Cour, A. *1923*, 136.
Cousens, H. *1926*, 766.
Crawley, E. *1927*, 919.
Creswell, K. A. C. *1922*, 595; *1923*, 123; *1925*, 163; *1927*, 392.
Crooke, W. *1929*, 329, 336 (ed.).
Crum, W. E. *1929*, 885.
Crump, L. M. *1928*, 416 (tr.).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Cruveilhier, P. *1923*, 105.
Dadiani, S. *1927*, 888.
ad-Dahabi, Shams ad din M. *1923*, 628.
Dahlke, P. *1928*, 174.
Dalal, C. D. *1925*, 354 ; *1926*, 771 (ed.).
Dalgado, S. R. *1921*, 263.
Dalrymple's Oriental Repertory. *1927*, 375.
Dalton, O. M., and *Braunholtz*, H. J. *1925*, 142.
Dames, M. L. *1922*, 284 ; *1923*, 640.
Darah Bharata. *1920*, 625.
Darling, M. L. *1926*, 130.
Das, A. C. *1921*, 636 ; *1926*, 757 ; *1929*, 130.
Das, S. K. *1926*, 343.
Dasgupta, S. *1923*, 116.
Datta, B. *1923*, 432 ; *1924*, 291 ; *1929*, 130.
Davoud, Poure. *1929*, 919.
David-Neel, A. *1928*, 160.
Davids, C. A. F. Rhys. *1923*, 279 (tr.) ; *1924*, 302, 475 ; *1926*, 132 (ed.), 133 (ed.) ; *1929*, 355.
Davids, T. W. Rhys, and *Stede*, W. *1923*, 455 ; *1925*, 185. *1926*, 132.
Davies, N. de Gavis. *1921*, 602.
Davis, W. S. *1924*, 331.
Daunt, H. D. *1927*, 162.
Dayal, P. *1928*, 447.
d'Cruz, F. A. *1923*, 453.
De, S. K. *1921*, 610 ; *1924*, 296 ; *1925*, 527.
De Lorenzo, G. *1926*, 758.
De Visser, M. W. *1924*, 472.
Dedering, S. *1928*, 963.
Devonshire, Mrs. R. L. *1924*, 116–17 ; *1927*, 898.
Dhabhar, B. N. *1924*, 477.
Dhabhar, E. B. N. *1925*, 331.
Dhalla, M. N. *1923*, 486.

REVIEWS OF BOOKS (*cont.*)

Dhammapada. *1925*, 530.
Dhammasangani. *1922*, 127.
Dhoyi. *1927*, 349.
Diez, E. *1926*, 767.
Difnar (The). *1928*, 977.
Dinet, E., and *Sliman ben Ibrahim*. *1924*, 130.
Dingwall, K. *1928*, 649.
Djawa. *1924*, 120.
Dodwell, H. *1921*, 649 ; *1924*, 680 (ed.).
Döhring, K. *1925*, 144.
Dosi, B. D. J. *1927*, 131.
Dougherty, R. P. *1921*, 658.
Downing, C. *1925*, 328.
Driver, G. R., and *Hodgson*, L. (ed.). *1926*, 752.
Driver, G. R. *1926*, 537.
Du Mesnil du Buisson, Count. *1929*, 887.
Duarte Barbosa, The Book of. *1922*, 284.
Dumezil, G. *1925*, 738.
Dumont, P. E. *1924*, 498.
Duroiselle, C. *1923*, 463.
Dussaud, R. *1929*, 900.
Dutch East Indies, Works on. *1922*, 625.
Dutt, B. B. *1927*, 146.
Dutt, L. P. *1926*, 527.
Dutt, N. K. *1921*, 127 ; *1927*, 146.
Ebeling, E., *Meissner*, B., and Weidner, E. F. *1926*, 783.
Ebeling, E. *1925*, 550.
Edgerton, F. *1925*, 802.
Edwards, E. *1923*, 121.
Edwardes, S. M. *1923*, 113 (ed.) ; *1925*, 180.
Eggers, W. *1929*, 916.
Eisenberg, I. *1924*, 129, 136.
Eisenstein, J. D. *1928*, 699.
Eitrem, S. *1927*, 400 (ed.).
Elder, E. E. *1928*, 220.
Eliot, C. *1922*, 442.
Ellis, R. H. *1925*, 743.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Ellow, A. P. *1921*, 290.
Enriquez, C. M. *1924*, 122; *1925*, 735.
Enthoven, R. E. *1924*, 139; *1925*, 796.
Erman, A. *1928*, 213.
Evans, I. K. N. *1928*, 919.
Evans-Wentz, W. Y. *1928*, 652; *1929*, 929.
Examples of Indian Art at the British Empire Exhibition, 1924. *1926*, 131.
Ezerman, J. L. J. F. *1921*, 639.
Faddegon, B. *1921*, 594.
Fagnan, E. *1923*, 298.
Faridi, A. H. *1929*, 925.
Farnell, L. R. *1926*, 768.
Farquhar, J. N. *1920*, 627–9.
Fattahi of Nishapur. *1927*, 910.
Fausboll, V. *1925*; 530 (tr.).
Feghali, M., and *Cuny*, A. *1925*, 135.
Feghali, M. T. *1929*, 670.
Ferguson, J. C. *1920*, 368–372; *1926*, 550.
Finkelstein, L. *1927*, 577.
Fischer, A. *1922*, 458; *1925*, 156 (ed.), 162 (ed.).
Fleury, S. *1921*, 627.
Fonahn, A. *1923*, 639.
Forke, A. *1929*, 199.
Formichi, C. *1927*, 338.
Forrer, E. *1920*, 603–5; *1924*, 699, 707.
Forrer, L. *1925*, 133.
Forster, E. S. *1928*, 960.
Foster, W. *1923*, 310; *1925*, 328 (ed.), 570; *1926*, 762; *1927*, 618 (ed.); *1928*, 942.
Foucher, A. *1924*, 280.
Fougères, G., etc. *1927*, 140.
Foy, W. *1926*, 329.
Francke, A. H. *1927*, 639.
Frank, C. *1924*, 697; *1929*, 374.

REVIEWS OF BOOKS (*cont.*)

Frankfort, H. *1926*, 319.
Fraser, J. O. *1923*, 284.
Fraser, M. F. A. *1925*, 560.
Frazer, J. G. *1925*, 352, 794.
French, J. C. *1929*, 161.
Friedrich, J. *1924*, 108; *1926*, 322.
Froger, F. *1927*, 381.
Fuad, K. Z. M. *1923*, 283.
Fulton, A. S., and *Ellis*, A. G. *1927*, 905.
Furlani, G. *1929*, 879.
Gabriel, Fr. *1924*, 311.
Gabriel-Rousseau, W. *1928*, 705.
Gadd, C. J. *1923*, 104; *1924*, 329; *1926*, 313.
Gaekwad's Oriental Series. *1923*, 425; *1924*, 288.
Gairdner, W. H. T. *1927*, 133; *1928*, 220.
Gale, J. S. *1925*, 355 (tr.).
Gamble, J. S. *1923*, 472.
Ganapati, Sastri. *1927*, 862 ed.
Ganga-Prasad. *1924*, 476.
Garstang, J. *1929*, 894.
Gaster, M. *1925*, 151; *1926*, 788; *1928*, 454.
Gaudart, E. *1926*, 130.
Gaudefroy-Demombynes, M. *1925*, 155, 160.
Gauthiot, R. *1924*, 280.
Gawronski, A. *1923*, 424.
Geiger, B. *1923*, 281.
Geiger, M. and W. *1924*, 673.
Geiger, W. *1925*, 370; *1929*, 163 (ed.).
Geldner, K. T. *1925*, 173.
Genouillac, H. de. *1924*, 696; *1926*, 325.
Getty, A. *1929*, 354.
Geyer, R. *1923*, 297; *1928*, 195 (ed.).
Ghellinck, J. de. *1929*, 197.
Ghoshal, U. N. *1927*, 877.
Ghose, N. *1920*, 242–8.
Gibb, H. A. R. *1927*, 899.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Gidvani, M. M. *1923*, 485.
Gilbert, R. *1929*, 944.
Gilbertson, G. W. *1924*, 727; *1925*, 773.
Giles, H. A. *1924*, 273, 274.
Glasenapp, H. v. *1923*, 437; *1925*, 801; *1926*, 760.
Godard, A. and V., *Hackin*, J., *Pelliott*, P. *1928*, 411.
Goetz, H. and *Ilse-Munk*, R. *1925*, 533.
Goichon, A. M. *1928*, 964.
Goldziher, I. *1922*, 120; *1926*, 353.
Gollancz, H. *1925*, 150; *1928*, 966.
Goloubew, V. *1927*, 925.
Goodrich-Freer, A. *1925*, 162.
Gopi Natha Kaviraja. *1927*, 168; *1928*, 936.
Gotze, A. *1924*, 707.
Government of Palestine System of Transliteration. *1924*, 491.
Gowen, H. H., and *Hall*, J. W. *1927*, 643.
Gowen, H. H. *1922*, 125.
Graham, J. A. (tr.). *1923*, 271.
Graham, W. A. *1925*, 737.
Granet, M. *1921*, 299; *1923*, 272.
Grant Duff, J. C. *1923*, 113.
Grantham, A. E. *1929*, 197.
Greaves, E. *1923*, 145, 146.
Gribble, J. D. B. *1925*, 525.
Grice, E. M. *1920*, 611–15.
Grierson, G., and *Barnett*, L. D. *1920*, 662–6.
Grierson, *G. A.* *1921*, 467, 471; *1922*, 102, 439; *1925*, 348, *1926*, 793; *1929*, 148, 630.
Griswold, H. D. *1925*, 361.
Grousset, R. *1924*, 117, 724.
Gubbins, J. H. *1924*, 474.
Guerinot, *A.* *1928*, 673.
Guha, A. *1923*, 479.

REVIEWS OF BOOKS (*cont.*)

Guide to the Pottery of the Far East, Brit. Mus. *1926*, 552.
Guidi, I. *1923*, 489.
Guidi, M. A. *1928*, 959.
Guilland, R. *1927*, 916.
Gujarat Historical Society Texts. *1925*, 530.
Gune, P. D. *1920*, 636–648.
Günter, H. *1923*, 452.
Gupte, B. A. *1925*, 353.
Gupte, Y. R. *1929*, 920.
Gurner, C. W. *1928*, 675 (tr.).
Guy, *A.* *1929*, 654.
Hackin, J. *1925*, 182; *1927*, 640.
Hackmann, H. *1929*, 199.
Hackney, L. W. *1928*, 648.
Hadank, K. *1929*, 190 (ed.).
Haddon, A. C. *1925*, 745.
Haig, W. *1929*, 907.
Hail, W. J. *1928*, 462.
al-Hakim. *1926*, 539.
Hall, D. G. E. *1929*, 639.
Hall, H. R. *1925*, 722; *1929*, 375.
Haller, B. *1928*, 211.
Halliday, R. *1925*, 149.
Hallward, N. L. *1921*, 595.
Halper, B. *1922*, 141.
Halphen, J. *1925*, 127.
Halphen, L. *1928*, 165.
Hamsaraja. *1927*, 166.
Han Yuan. *1924*, 470.
Hanakdan, B. *1921*, 434.
Handbook of Syria. *1924*, 107.
Hankin, E. H. *1926*, 763.
Hardy, E. *1925*, 775.
Harsha. *1925*, 350.
Harting, P. N. U. *1923*, 428.
Hartmann, R. *1925*, 750.
Harvey, G. E. *1926*, 375.
Hasan, Hadi. *1929*, 407.
Haushofer, K. *1924*, 473.
Havell, E. B. *1922*, 454; *1926*, 531.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Havret, et *Chambeau*, Les PP. *1921*, 301.
Heath, J. *1926*, 131 (ed.).
Hebrew Union College Annual. *1928*, 191.
Heffening, W. *1926*, 332.
Heine-Geldern, R. Freiherrn v. *1923*, 144, 452.
Hell, J. *1929*, 391.
Hemacandra. *1927*, 864.
Hemeling, K. *1921*, 630.
Henderson, J. R. *1923*, 651.
Hennecke, E. *1925*, 728.
Heras, H. *1927*, 616; *1929*, 141.
Herklots, G. A. (ed.). *1923*, 635.
Hertel, J. *1923*, 479; *1924*, 280, 296; *1925*, 733; *1927*, 350; *1928*, 180; *1929*, 131.
Hewavitarane Fund Publications. *1923*, 278.
Hieroglyphic Texts from Egyptian Stelæ in the Brit. Mus. *1924*, 313.
Hill, G. F. *1923*, 620.
Hill, S. C. *1929*, 148.
Hill, W. D. P. *1929*, 124 (tr.).
Hillebrandt, A. *1925*, 173.
Hillelson, S. *1926*, 331.
Hillion, G. *1926*, 328.
Hira Lal. *1927*, 870.
Hirschfeld, H. *1927*, 399.
History of Arabic Journalism. *1922*, 280.
Hitti, P. K. *1925*, 542 (ed.). *1927*, 397; *1929*, 655 (ed.).
Hittite Texts from the British Museum. *1923*, 104.
Hobson, R. L., and *Hetherington*, A. L. *1924*, 464.
Hobson, R. L. *1921*, 300; *1925*, 564; *1926*, 558.
Hocart, A. M. *1925*, 330; *1926*, 135; *1928*, 422.
Hocart, H. M. *1924*, 281; *1925*, 330.

REVIEWS OF BOOKS (*cont.*)

Hodivala, S. H. *1924*, 686; *1928*, 445.
Hodivala, S. K. *1923*, 141.
Hodous, L. *1925*, 127.
Hodson, T. C. *1923*, 122.
Hogarth, D. G. *1921*, 442; *1923*, 466; *1925*, 792; *1929*, 388.
Holmyard, E. J. *1925*, 154 (ed.), 791.
Hommel, F. *1927*, 920.
Honor, L. L. *1927*, 915.
Hornbeck, S. K. *1928*, 459.
Hornell, J. *1925*, 740.
Horner, G. *1925*, 757.
Horten, M. *1928*, 437.
Hoschander, J. *1926*, 580.
Hoskins, H. L. *1929*, 638.
Howard, C. G. *1924*, 128.
Howardy, G. *1921*, 439.
Howorth, H. *1929*, 203.
Hoyland, J. S. *1924*, 678.
Hrozny, F. *1926*, 322.
Hultzsch, E. *1924*, 290; *1926*, 137; *1927*, 347 (ed.).
Hume, R. E. *1925*, 115.
Husain, M. Hidayat. *1925*, 536.
Husain, Ta Ha. *1927*, 902.
Hutson, J. *1923*, 273.
Hutton, J. H. *1922*, 104.
Hyderabad Arch. Reports. *1927*, 597; *1928*, 436; *1929*, 627.
Hyderabad Quarterly Review. *1928*, 192.
Ibn Hajar. *1926*, 541.
Ibn Manzur. *1925*, 772.
Ibn Tahir. *1921*, 295.
Ibn Qutaiba. *1926*, 542.
Ibnu'l Balkhi. *1924*, 275.
Ilbert, C. *1923*, 635.
India, Archæological Survey Reports. *1923*, 460, 647.
India, Memoirs of Arch. Survey. *1927*, 871.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

India Society. *1925*, 743.
Indian Drawings in Victoria and Albert Museum. *1923*, 648.
Indian Historical Records Commission. *1922*, 298 ; *1925*, 120, 804 ; *1927*, 330.
Ingoroqva, P. *1927*, 887.
Inscriptions du Cambodge. *1928*, 153 ; *1929*, 938.
Iqbal, M. *1924*, 276 (ed.).
el-'Iraqi. *1925*, 154.
Irvine, W. *1924*, 681.
Isaac of Nineveh. *1925*, 361.
Ivanow, W. *1926*, 530.
Iyengar, T. R. Sesha. *1926*, 155.
Iyer, V. V. *1923*, 427.
Jackson, V. H. *1928*, 169 (ed.).
Jain, B. D. *1925*, 348.
Jain, Kamta-Prasad. *1928*, 674.
Jalalu 'd-din Rumi. *1925*, 787 ; *1927*, 125.
James, M. R. *1925*, 728.
Jami. *1927*, 582.
Janvier, E. P. *1923*, 453,
Japhetique I, Recueil. *1923*, 307.
Jardine, R. F. *1923*, 471.
Jarric, P. du. *1927*, 623.
Jaussen et *Savignac*, RR. PP. *1925*, 161.
Jayaswal, K. P. *1925*, 519 ; *1926*, 774 ; *1928*, 937.
Jayne, W. A. *1926*, 363.
Jha, Ganganatha. *1923*, 430 ; *1928*, 676.
Jean, C. F. *1926*, 321.
Jennings, W. *1926*, 752.
Johansson, K. F. *1928*, 692.
John of Monte Corvino. *1929*,196.
Johnston, E. H. *1929*, 325 (ed.).
Johnston, R. F. *1923*, 271.
Jolly, J., and *Schmidt*, R. (eds.). *1925*, 366, 809.
Journal of the Gypsy Lore Society. *1922*, 299 ; *1923*, 476 ; *1924*, 730 ; *1925*, 121, 570 ; *1927*, 404.
Jouveau-Dubreuil, G. *1920*, 378 ; *1923*, 442.
Junker, H., and *Demel*, H. *1924*, 309.
Junker, H. *1923*, 114.
Juynboll, H. H. *1923*, 446.
K. R. Cama, Oriental Institute, Journal. *1924*, 476.
Kahle, P. *1928*, 188.
Kak, R. C. *1924*, 281 ; *1926*, 336.
Kalidasa. *1927*, 867.
Kalpa-sutra of Bhadrabahu. *1920*, 254.
Kane, P. V. *1920*, 384–9 ; *1922*, 448 (ed.) ; *1924*, 296 ; *1927*, 603 (ed.).
Kanjilal, R. L. and *Zadoo*, J. *1925*, 809 (ed.).
Kannisto, A. *1926*, 330.
Karlgren, B. *1924*, 140 ; *1927*, 642 ; *1928*, 121 ; *1929*, 203.
Karpeles, S. *1921*, 281 (ed.).
Kashmir, Memoirs of Arch. Survey. *1926*, 162.
Kashmir Series of Texts and Studies 8–24. *1920*, 605–6.
Kasrawi, A. S. A. *1927*, 148.
Kasrawi Tabrizi, S. A. *1929*, 664.
Kathakagrhyasutra. *1927*, 866.
Kato, Genchi. *1927*, 926.
Kautilya. *1925*, 366, 809, 810.
Kautzsch, E. *1925*, 338.
Kavyopadhyaya, H. L. *1923*, 444.
Kaye, G. R. *1920*, 618 ; *1926*, 344 ; *1929*, 153.
Keay, F. E. *1922*, 293.
Keith, A. B. *1923*, 478 ; *1924*, 723 ; *1925*, 173 ; *1929*, 358.
Kennedy, A. B. W. *1926*, 332.
Kennedy, M. T. *1926*, 127.
Kennett, A. *1927*, 398.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Kern Institute, Leyden, Annual Bibl. of Indian Archæology, 1926. *1929*, 150, 913.
Kern, H. *1923*, 447, 451.
Khan, Khaja. *1924*, 494.
Kharosthi Inscriptions. *1921*, 277.
Kiliaan, H. N. *1920*, 255.
Kilgour, R. and *Duncan*, H. C. *1926*, 364.
Kim Man-choong. *1925*, 355.
Kimchi, S. *1920*, 250.
Kimura, R. *1928*, 950.
Kincaid, C. A., and *Parasnis*, D. B. *1920*, 235 ; *1926*, 158.
Kincaid, C. A. *1921*, 131 ; *1923*, 454 ; *1929*, 146.
Kindersley, A. F. *1923*, 655.
King, L. White. *1927*, 580 (tr.).
Kingsbury, F., and *Phillips*, G. E. *1923*, 481.
Kitab al-Aghani. *1927*, 905.
Klebs, L. *1924*, 313.
Konow, Sten. *1923*, 475, 488 ; *1924*, 239 (ed.) ; *1927*, 599.
Koop, A. *1926*, 562.
Kopernicki, T. *1925*, 800.
Kosambi, Dhammananda. *1924*, 303, 476.
Kowalski, T. *1923*, 627 (ed.) ; *1929*, 905.
Kozlov, P. K. *1926*, 555.
Kraelitz, Fr. *1924*, 128.
Krämer, A. *1928*, 178.
Krause, C. *1924*, 297 ; *1925*, 531.
Krebs, E. *1921*, 662.
Krishnamacharya, Embar. *1927*, 861 (ed.).
Kregenberg, H. *1925*, 801.
Krom, N. J. *1923*, 444 ; *1926*, 750 ; *1927*, 633 (ed.) ; *1928*, 908–912.
Kuka, M. N. *1925*, 333.
Kumar, S., *Datta*, N., and *Chapman*, J. A. *1925*, 749.

REVIEWS OF BOOKS (*cont.*)

Kurd 'Ali, Muhammad. *1927*, 573.
Kurdisch-Persische Forschungen. *1929*, 190.
al-Kutub al-Misriyya. *1925*, 769.
Labhaya, Ram. *1925*, 174.
Labib, Husain. *1922*, 283.
Lachmann, R. *1929*, 940.
Lal, Hira. *1924*, 477.
Lalitavistara. *1927*, 632.
Lalla-Vakyani. *1925*, 566.
Landberg, Comte de. *1921*, 599.
Lane, W. H. *1924*, 105.
Langdon, S. *1920*, 648–651 ; *1921*, 295 ; *1924*, 702 ; *1925*, 547 ; *1926*, 325 ; *1929*, 875, 877.
Langlet, E. *1929*, 653.
Lanman, C. R. *1927*, 867 (ed.).
Latthe, A. B. *1926*, 130.
Laoust, E. *1920*, 373–5.
Laufer, B. *1920*, 653–5 ; *1926*, 554, 561 ; *1928*, 907 ; *1929*, 206, 652.
Law, B. C. *1923*, 441 ; *1924*, 303, 723 ; *1925*, 327, 332, 808, 812 ; *1927*, 870.
Law, N. N. *1921*, 614 ; *1923*, 635.
Lawrence, A. W. *1928*, 436.
Lawrence, T. E. *1927*, 907.
Lefévre-Pontalis, P. *1928*, 158.
Legge, F. *1922*, 468.
Legrain, L. *1925*, 358 ; *1929*, 377.
Lehmann-Haupt, C. F. *1928*, 973.
Lehtisalo, T. *1925*, 799.
Le May, R. *1928*, 160.
Lesquier, J. *1920*, 355–364.
Le Strange, G. and *Nicholson*, R. A. (ed.). *1924*, 275.
Le Strange, G. *1925*, 538 ; *1927*, 621.
Lethem, G. T. *1921*, 455.
Letts, M. *1927*, 625 (tr.).
Lévi, S. *1927*, 147.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Lévi-Provençal, E. *1923*, 628; *1929*, 675.
Leuba, Jeanne. *1924*, 720.
Levy, Raphael. *1929*, 178.
Levy, Reuben. *1924*, 278.
Lewy, E. *1928*, 164.
Lewy, J. *1924*, 694.
Leyden, J., and *Erskine*, W. *1922*, 597.
Libya, Handbook of. *1923*, 470.
Lidzbarski, M. *1926*, 372.
Liebich, B. *1922*, 433; *1925*, 174, 184; *1929*, 147.
Lilley, M. E. *1926*, 340; *1927*, 876.
Linguistic Survey of India. *1927*, 599.
Linton, J. H. *1923*, 318.
Littmann, E. *1922*, 457; *1926*, 349.
Loghat al-Arab. *1928*, 193.
Lokesvara-satakam. *1921*, 281.
Lommel, H. *1928*, 186.
Longhurst, A. H. *1925*, 742; *1929*, 626.
Longrigg, S. H. *1927*, 164.
Lorenzo, G. de. *1926*, 338.
Lorimer, D. L. R., and E. O. *1920*, 372.
Lorimer, D. L. R. *1923*, 108.
Lovett, V. *1924*, 691.
Luckenbill, D. D. *1926*, 327; *1928*, 706.
Luke, W. C. *1928*, 965.
Lyall, C. J. *1920*, 381–3; *1922*, 588; *1925*, 539 (ed.).
McKenzie, J. *1924*, 723.
McNicol, M. *1920*, 622–7; *1924*, 477.
Macdonald, A. *1929*, 157.
Macdonell, A. A. *1924*, 290; *1925*, 173; *1927*, 130; *1928*, 434.
Mackay, E. *1929*, 184.
Macler, F. *1922*, 461; *1928*, 212; *1929*, 400, 401.

REVIEWS OF BOOKS (*cont.*)

Macphail, J. M. *1927*, 584.
Macpherson, W. C. *1928*, 947.
Madhurattha vilasini. *1923*, 434.
Magha. *1927*, 347.
Majjhima Nikaya, Pt. 4, Index. *1926*, 133.
Majumdar, R. Ch. *1920*, 114; *1927*, 605; *1929*, 140.
Makas, H. *1927*, 129.
Makepeace, W., and Others. *1923*, 473.
Malalasekera, G. P. *1929*, 614.
Mall, Todar. *1929*, 134.
Mallik, G. N. *1929*, 616.
Man in India. Vol. I, No. 1. *1923*, 149.
Manava Srauta sutra. *1921*, 593.
Manoratha-purani. *1926*, 778.
Mao's Edition of the Odes, Books X, XI. *1924*, 470.
Maqrizi. *1921*, 620; *1925*, 155.
Marchal, H. *1928*, 917.
Marchal, S. *1928*, 916.
Marco Polo. *1927*, 388.
Margoliouth, J. P. *1928*, 697.
Margoliouth, D. S. *1925*, 153.
Margouliès, G. *1928*, 151.
Mark, J. *1926*, 330.
Marr, N. *1922*, 109.
Marshall, J. *1920*, 108; *1924*, 281; *1926*, 763.
Martineau, A. *1921*, 648.
Masani, R. P. *1925*, 792.
Maspéro, G. *1929*, 938.
Massé, H. *1921*, 448; *1927*, 582 (tr.).
Massignon, L. *1925*, 137.
Massy, *P. H. H.* *1929*, 194.
Mayer, L. A. *1924*, 330.
Mazumdar, B. *1923*, 443; *1926*, 156.
Mead, G. R. S. *1923*, 477.
Meers, C. A. *1928*, 918.
Meillet, A., and *Cohen*, M. *1925*, 744.
Meillet, A. *1926*, 535.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Meissner, B. *1921*, 600.
Memoires de la Commission Orientale de l'Academie Polonaise des Sciences et des Lettres. *1924*, 131.
Menon, K. P. P. *1926*, 126.
Mercer, S. A. B. *1920*, 107, 656 ; *1921*, 267, 269, 270 ; *1923*, 105, 115 (tr.) ; *1924*, 106.
Mercier, L. *1923*, 638 (ed.).
Meyer, J. J. *1925*, 610 (ed.) ; *1928*, 429 ; *1929*, 918.
Mez, A. *1924*, 724.
Michalski-Iwienski, St. Fr. *1923*, 429.
Miller, W. *1928*, 963.
Miller, Wsewolod. *1928*, 709.
Mills, J. P. *1923*, 299 ; *1927*, 364.
Mills, L. A. *1928*, 155.
Milne, Mrs. Leslie. *1922*, 107 ; *1924*, 712.
Mingana, A. *1923*, 469.
Misra, Sadasiva. *1928*, 678.
Misra, S. B. *1925*, 329.
Mittwoch, E. *1929*, 394.
Modi, J. J. *1924*, 677 ; *1925*, 331.
Moffatt, J. *1925*, 334.
Monahan, F. J. *1925*, 524.
Montgomery, J. *1928*, 448, (tr.).
Mookerji, Radhakumud. *1920*, 114 ; *1925*, 373 ; *1927*, 583 ; *1929*, 622.
Mordtmann, J. H. *1925*, 782.
Moreland, W. H., and *Geyl*, P. *1926*, 158 (tr.).
Moreland, W. H. *1920*, 380 ; *1924*, 684.
Moret, A. *1928*, 217.
Morgan, J. de. *1926*, 358.
Morgenstierne, G. *1927*, 368 ; *1928*, 167.
Morier, J. *1925*, 785.
Morse, H. B. *1926*, 575.

REVIEWS OF BOOKS (*cont.*)

Moss, R. *1926*, 743.
Mudaliyar, M. M. K. *1925*, 183.
Mufaddaliyat. *1922*, 589 ; *1925*, 539.
Muhammad Abd el Gawad. *1927*, 901.
Mukherjee, B. L. *1923*, 437.
Müller, F. Max. *1925*, 530 (tr.).
Murray, G. W. *1925*, 118.
Muyldermans, J. *1927*, 900.
Mysore Archæological Annual Report. *1920*, 379 ; *1926*, 161 ; *1927*, 597.
Mysore Government Oriental Library Series. *1925*, 354.
Mzik, H. V. *1927*, 162 ; *1929*, 684, 906.
Nabha-ji. *1928*, 169.
Nag, Kalidas. *1924*, 476 ; *1928*, 676.
Nayari-Pracarini Patrika. *1921*, 286.
Narasimhachar, R. *1920*, 252–4, 376, 379 ; *1923*, 280–438 ; *1924*, 138 ; *1925*, 351.
Narasu, P. L. *1924*, 721.
Nariman, G. K., and Others (trs.). *1925*, 350.
Nariman, G. K. *1923*, 118 ; *1926*, 532.
Nasir Khusrau. *1925*, 325.
Nasir ud-Din Hashimi. *1927*, 579.
Naville, Ed. *1922*, 132 ; *1924*, 313.
Nawab 'Ali, Saiyid, and *Seddon*, C. N. *1925*, 789.
Nazim, M. *1929*, 663.
Negelein, J. von. *1925*, 173.
Neisser, W. *1925*, 372.
Neumann, K. E. *1927*, 627.
New China Review, Vol. I, No. 1. *1920*, 106.
Newman, L. I. *1920*, 104–6.
Nicholson, R. A. *1923*, 143 ; *1924*, 277 ; *1925*, 787 (ed.) ; *1927*, 125 (ed.).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Niedermayer, O. v. *1928*, 165.
Nielsen, D. *1924*, 126 ; *1929*, 188.
Nies, J. B. *1929*, 383.
Nighantu and the Nirukta. *1922*, 447.
Nilakantha Bhatta. *1927*, 603.
Nilamatapuranam. *1925*, 809.
Nizami of Gunja. *1925*, 324.
Nizami. *1929*, 406.
Noguchi, Yone. *1928*, 643.
Nopcsa, Fr. *1929*, 684.
Northey, W. B. *1929*, 636.
Notscher, Fr. *1926*, 544 ; *1928*, 968.
en-Nuguairi. *1925*, 769.
Nyberg, H. S. *1925*, 136 ; *1927*, 392 ; *1929*, 611.
Obermann, J. *1923*, 296.
Ojha, G. H. *1926*, 534 ; *1929*, 155.
Old Testament Essays. *1929*, 176.
Oldeberg, H. *1929*, 901.
O'Leary, De Lacy. *1924*, 307 ; *1926*, 736 ; *1928*, 977.
Olmstead, A. T. *1924*, 700.
Oost, J. van. *1921*, 300.
Oostersch Genootschap in Nederland. *1925*, 181.
Oriental Ceramic Society Transactions, 1923–7. *1924*, 463 ; *1928*, 650.
Oriental Congress, 1924 (Madras). *1927*, 332.
Osmania Magazine. *1928*, 193.
Page, J. A. *1927*, 586.
Palacios, M. A. *1922*, 279 ; *1928*, 700.
Pallis, S. A. *1927*, 895.
Palmer, H. E. *1920*, 258–262.
Pange, J. de. *1925*, 325.
Papyri Osloenses. *1927*, 400.
Paramattha Dipani. *1920*, 256–8 ; *1926*, 778.
Paramatthajotika. *1920*, 434.

REVIEWS OF BOOKS (*cont.*)

Paret, Budi. *1928*, 703.
Paret, R. *1925*, 537.
Pargiter, F. E. *1922*, 605 ; *1925*, 747.
Parmentier, H. *1923*, 648 ; *1927*, 641, 925.
Parsons, A. C. *1924*, 726.
Paruck, F. D. J. *1926*, 740.
Patanjali, *1927*, 357.
Patterson, L. *1923*, 142.
Pavry, C. E. *1928*, 694.
Pavry, J. D. C. *1927*, 137.
Payne, C. H. *1926*, 153 ; *1927*, 623 (tr.).
Pe Maung Tin and *Luce*, G. H. *1929*. 934.
Pe Maung Tin. *1929*, 614.
Pedersen, J. *1927*, 402.
Peirce, H., and *Tyler*, R. *1929*, 179.
Pelliot, P. *1921*, 136 ; *1926*, 561, 562.
Pelsaert, F. *1926*, 158.
Pendlebury, M. (ed.). *1925*, 525.
Penzer, N. *1923*, 464 (ed.) ; *1924*, 689 (ed.) ; *1925*, 155 (ed.), 339 (ed.) ; *1926*, 127 (ed.), 737 (ed.) ; *1927*, 360 (ed.), 363, 606 (ed.) ; *1928*, 679 (ed.), 946 (ed.).
Perera, H. S., and *Jones*, D. *1920*, 375.
Pérès, H. *1929*, 668.
Pero Tafur. *1927*, 625.
Pershad, Ram. *1925*, 116.
Perry, W. J. *1924*, 713.
Persian Subjects, Notices on Recent Works. *1921*, 140.
Persian Tales. *1920*, 372.
Perzynski, F. *1921*, 299.
Peter Mundy's Travels, Vol. III. *1920*, 364–8.
Pettazzoni, R. *1929*, 943.
Pfandmuller, G. *1924*, 492.
Philby, H. St. J. B. *1923*, 101 ; *1929*, 386.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Pieris, P. E., and *Fitzler*, M. A. H. *1927*, 880.
Pieris, P. E. *1926*, 160 ; *1927*, 606 ; *1929*, 169.
Pillai, L. D. S. *1924*, 281.
Pilter, W. T. *1929*, 888.
Pisharoty, A. K. *1925*, 811.
Plessis, J. *1924*, 126.
Plessner, M. *1929*, 186.
Poona Oriental Conference Proc. and Trans. *1923*, 624.
Pope-Hennessy, U. *1924*, 466.
Popper, W. *1920*, 104–6 ; *1922*, 111 ; *1924*, 496 (ed.).
Porath, E. *1927*, 575.
Porten, W. v. der. *1929*, 173.
Pottier, E. *1929*, 181.
Poussin, L. de la Vallée. *1924*, 299 ; *1926*, 163 ; *1927*, 631.
Pownall, C. H. *1924*, 121.
Pradhan, S. N. *1928*, 670.
Prasad, Beni. *1923*, 483 ; *1929*, 132, 149.
Prasad, I. *1926*, 780.
Prasad, Jwala. *1929*, 631.
Pratt, I., and *Gottheil*, R. *1925*, 723.
Pratt, J. B. *1929*, 613.
Preisendanz, K. *1929*, 397.
Prenzel, W. *1929*, 205.
Princess of Wales Saraswati Bhavana Texts, 1–6. *1924*, 288 ; Nos. 10, 19, 20. *1928*, 675.
Przyluski, J. *1925*, 174.
Puratattva. *1924*, 476.
Purser, W. C. B. and *Sayatun Aung*. *1923*, 298.
Pye, D. *1928*, 420.
Qalquashandi. *1921*, 294.
Qanungo, K. R. *1925*, 803.
Quanungo, K. *1923*, 125.
al-Quraishi al Makhzumi. *1923*, 282.
al-Qazwini. *1925*, 751.
Radcliffe, W. *1922*, 607.

REVIEWS OF BOOKS (*cont.*)

Rahder, J. *1927*, 161.
Ramachandra Suri. *1927*, 861.
Ramiro, G. *1925*, 679 (ed.).
Ramsbotham, R. B. *1927*, 608.
Ranade, R. D. *1928*, 172.
Rao, T. A. G. *1922*, 290.
Rapson, E. J. *1922*, 633.
Raquette, G. *1928*, 163, 924.
Rasanen, M. *1925*, 134.
ar-Rawandi. *1924*, 276.
Rawlinson, H. G. *1923*, 310.
Rawlley, R. C. *1920*, 620–2.
Ray, S. H. *1928*, 157.
Raychaudhuri, H. C. *1923*, 140 ; *1928*, 689.
Reckendorf, H. *1922*, 139.
Reisner, G. A., *Fisher*, C. S., *Lyon*, D. G. *1926*, 548.
Reitzenstein, R. *1927*, 912.
Renou, L. *1926*, 776 ; *1929*, 632.
Rescher, O. 1924, 496 ; *1925*, 134 ; *1927*, 904.
Reu, V. *1923*, 439 ; *1927*, 355.
Rhodokanakis, N. *1922*, 275.
Riasanovsky, V. A. *1929*, 410.
Rice, E. P. *1924*, 477.
Rice, S. *1925*, 119, 526.
Richmond, E. T. *1926*, 334 ; *1927*, 393.
Ritchie, G. *1921*, 619.
Rivoira, G. T. *1920*, 629–636.
Robequain, C. *1929*, 939.
Robinson, T. H. *1924*, 137 ; *1926*, 752.
Roe, Thomas. *1927*, 618.
Roeder, G. *1923*, 115.
Ronkel, Ph. S. van. *1921*, 646.
Rönnow, K. *1928*, 933.
Ross, *E. D.* *1923*, 457.
Rosthorn, A. *1921*, 662.
Rothfeld, O. *1923*, 129.
Rowley, H. H. *1929*, 659.
Roy, *Sarat Chandra*. *1922*, 451 ; *1926*, 129 ; *1929*, 642.
Ruben, W. *1929*, 619.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Rudolph, W. *1924*, 495.
Rupam. *1920*, 389.
Ruska, J. *1925*, 543.
Rutter, E. *1929*, 384.
Rutter, *O*. *1924*, 472, 720.
Sachau, E. *1924*, 130.
Sacy, S. de. *1925*, 159.
Sa'di. *1927*, 580.
Saddhammapajjotika. *1926*, 778.
Sahariya, K. *1923*, 442.
Sahni, D. R. *1925*, 182.
Said-Ruete, R. *1929*, 666.
Sainsbury, E. B. *1923*, 303; *1926*, 343; *1929*, 634.
Sakisian, Armenag Bey. *1929*, 882.
Saklatwalla, J. E. *1923*, 423.
Saksena, B. *1926*, 139.
Saktibhadra, *1927*, 352.
Sale, G. *1922*, 282.
Salhani, P. A. *1926*, 376.
Samaddar, J. N. *1924*, 692; *1926*, 154.
Samantapasadika. *1925*, 776.
Samdani, M. S. M. A. *1929*, 921.
Sampson, J. *1926*, 797.
Samyutta-Nikaya. *1926*, 133.
Sandeman, R. G. *1923*, 302.
Sanjana, D. D. P. *1924*, 108; *1927*, 132.
Sansom, G. B. *1928*, 645.
Santataraksita. *1927*, 861.
Sanyutta Nikaya. *1923*, 279.
Saratthappakasini. *1926*, 778.
Sarda, Har Bilas. *1920*, 113, *1923*, 150.
Sardesai, G. S. *1927*, 616.
Sarkar, B. K. *1923*, 484; *1927*, 328.
Sarkar, Jadunath. *1920*, 118–121, 262; *1921*, 438; *1924*, 502; *1929*, 361.
Sarma, B., and *Radhakrishna*, A. *1926*, 343.
Sarma, H. *1927*, 354 (ed.).

REVIEWS OF BOOKS (*cont.*)

Sarton, G. *1929*, 209.
Sarup Lakshman (ed.). *1922*, 447; *1923*, 275; *1926*, 337; *1929*, 620.
Sastri, G. *1926*, 771.
Sastri, *H. K.* *1923*, 141; *1927*, 586.
Sastri, Haraprasad. *1927*, 870.
Sastri, R. Ramasubba. *1922* 449.
Sastri, S. K. *1927*, 352 (ed.).
Satapatha Brahmana. *1927*, 167.
Sathe, P. B. *1928*, 679.
Saunders, K. J. *1924*, 723; *1925*, 129.
Savarkar, V. D. *1926*, 757.
Sayce, A. H. *1924*, 103.
as-Sayuti. *1929*, 655.
Sbath, P. *1925*, 156.
Schacht, J. *1925*, 753.
Scheftelowitz, J. *1921*, 429; *1924*, 104; *1926*, 568.
Scheil, V. *1922*, 613; *1925*, 169.
Scheltema, J. F. *1922*, 278.
Schierlitz, E. *1927*, 875.
Schindler, B., and *Weller*, Fr. *1925*, 370 (eds.); *1927*, 142 (eds.).
Schlesinger, M. *1928*, 962.
Scholem, G. *1927*, 578; *1928*, 698 (ed. and tr.).
Schmidt, C. *1925*, 757.
Schmidt, R. *1925*, 533 (ed.); *1929*, 629.
Schnabel, P. *1926*, 546.
Schoy, C. *1926*, 336.
Schröder, E. E. W. Gs. *1928*, 155.
Schurhammer, G., and *Voretzsch*, B. A. *1929*, 165.
Schurhammer, G. *1924*, 473.
Schwarz, A. S. *1925*, 557.
Scott, J. G. *1925*, 736.
Scott, J. W. Robertson, *1924*, 474.
Seligman, S. *1928*, 190.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Sell, E. *1923*, 294 ; *1929*, 899.
Sen, A. K. *1927*, 869.
Sen, D. *1922*, 135.
Sen, D. C. *1923*, 134 ; *1924*, 683, 695, 721.
Sen, *P.* *1920*, 118.
Sen, S. *1924*, 722 ; *1925*, 138 ; *1929*, 363.
Sen, S. N. *1921*, 445.
Senart, E. *1923*, 428 ; *1928*, 939.
Seth, M. J. *1921*, 457.
Sévérac, J. C. de. *1926*, 761.
Sewell, R. *1924*, 687 ; *1925*, 744.
Shafaat Ahmad Khan. *1924*, 280 ; *1927*, 378.
Shah, Ahmad, and *Ormerod*, E. W. *1926*, 779.
Shah, Ahmad. *1922*, 292.
Shahidullah, M. *1929*, 616.
Sharif, J. *1923*, 635.
Sharma, C. D. P. *1928*, 434.
Sharaf, Mohammad. *1927*, 574.
Shastri, B. K. *1924*, 721.
Shastri, H. P. *1927*, 605.
Shastri, K. *1926*, 533.
Shastri, M. D. *1923*, 433.
Shastri, R. *1923*, 432.
Sheppard, H. W. *1923*, 99 ; *1924*, 696.
Shirokogoroff, S. M. *1925*, 754.
Shirreff, A. G., and *Lall*, P. *1921*, 134.
Shrigondekar, G. K. (ed.). *1927*, 861.
Shrigondekar, G. S. *1926*, 771.
Siddhasena, *1927*, 864.
Siddiqi, A. *1920*, 383.
Siksha-Samuccaya. *1923*, 276.
Silberschmidt, M. *1925*, 136.
Singh, S. N. *1925*, 749.
Singh, U. *1923*, 150.
Singhal, J. P. *1924*, 281.
Sinha, K. G. *1927*, 592.
Sircar, M. *1929*, 625.

REVIEWS OF BOOKS (*cont.*)

Siren, O. *1926*, 552.
Skold, H. *1925*, 356 ; *1926*, 330 ; *1927*, 357.
Skoss, S. L. *1929*, 676.
Slater, G. *1921*, 437 ; *1924*, 477.
Smith, Helmer. *1929*, 609.
Smith, *M.* *1929*, 898.
Smith, *S.* *1923*, 104 ; *1925*, 165, *1926*, 729 ; *1927*, 889 ; *1928*, 953.
Smith, *V. A.* *1921*, 610 ; *1925*, 746.
Smith, W. C. *1925*, 731.
Soane, E. B. *1921*, 287 ; *1927*, 917.
Somadeva. *1928*, 679, 946.
Song Ong Siang. *1924*, 471.
Sörensen, S. *1926*, 335.
South-Indian Epigraphy, Annual Report. *1926*, 161.
Speleers, L. *1929*, 888.
Spooner, D. B. *1925*, 524.
Sri Mulam Malayalam Series. *1925*, 793.
Srinivasachari, C. S. *1925*, 182.
Stcherbatsky, T. *1925*, 128 ; *1927*, 881.
Steiger, G. N. *1928*, 459.
Stein, A. *1923*, 274 ; *1924*, 141, 305 ; *1925*, 554 ; *1929*, 926, 944.
Stein, O. *1923*, 623.
Stephens, F. J. *1929*, 892.
Stevenson, W. B. *1926*, 349.
Stigand, C. H. *1924*, 727.
Storey, C. A. *1928*, 441.
Strauss, O. *1923*, 454 ; *1925*, 374.
Strothmann, R. *1928*, 925.
Studia Semitica et Orientalia, *1922*, 122.
Stutterheim, W. *1926*, 362.
Suali, L. *1927*, 633.
Subject Index to Periodicals, 1920–21. *1925*, 751.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Sultzberger, M. *1925*, 359.
Sunderland, H. *1927*, 155 (tr.).
Survey of International Affairs. *1928*, 687.
Sutta-nipata. *1925*, 530.
Sykes, P. M. *1921*, 629 ; *1927*, 343.
Tachibana, S. *1927*, 327.
Tafrali, O. *1929*, 195.
Takakusu, J. and *Nagai*, M. *1925*, 776.
Taki, R. S. *1924*, 477.
Tallquist, K. *1924*, 131.
Tattabhusan, H. G. *1929*, 922.
Tambyah, I. *1926*, 770 ; *1927*, 338.
Tauer, F. *1925*, 537.
Tavernier, J. B. *1927*, 336.
Taw Sein Ko and *Duroiselle*, C. *1925*, 144.
Tawney, C. H. *1924*, *689* ; *1925*, 339 ; *1926*, 127, 737 ; *1927*, 360, 606 ; *1928*, 679, 946.
at-Tayalasi. *1928*, 195.
Taylor, Meadows. *1923*, 311.
Tedesco, P. *1927*, 141.
Teichman, E. *1923*, 274.
Temple, R. C. *1920*, 364 ; *1925*, 566.
Thomas, E. J. *1924*, 290 ; *1927*, 635.
Thompson, E. *1928*, 427 ; *1929*, 145.
Thompson, E. J., and *Spencer*, A. M. *1925*, 748.
Thompson, E. J. *1923*, 142.
Thompson, R. C., and *Hutchinson*, R. W. *1929*, 893.
Thompson, R. C. *1922*, 621 ; *1925*, 726.
Thomsen, P. *1927*, 914.
Thureau-Dangin, F. *1927*, 568, 897.
Tin, Pe Maung, and *Luce*, G. H. *1924*, 119.
Tin, Pe Maung, *1924*, 303.

REVIEWS OF BOOKS (*cont.*)

Tod, J., ed. *Crooke*, W. *1921*, 135.
Tolkowsky, S. *1926*, 529.
at-Tonki, Mahmud-Hasan. *1929*, 170.
Torrey, C. C. *1923*, 467.
Torrey, C. T. *1927*, 405.
Torii, R. *1920*, 599–601.
Toyo Bunko, Memoirs of the Research Dept. *1929*, 201.
Travancore. Arch. Survey. *1923*, 647
Travels of Fa-Hsien. *1924*, 274.
Tremayne, A. *1926*, 794.
Trench, C. G. Chevenix. *1920*, 607–610.
Trenckner, V. *1929*, 355.
Trivandrum Sanskrit Series. *1927*, 364 ; *1928*, 938.
Trumper, C. L. *1924*, 107, 697 706.
Ts'ai T'ing-kan. *1926*, 152.
Tsibikov, G. T. *1925*, 778.
Tucci, G. *1923*, 272 ; *1927*, 637
Turin Museum, I Papyri Ieratica. *1928*, 979.
Turner, R. L. *1927*, 601.
'Umar Khayyam. *1927*, 908.
Unvala, J. M. *1926*, 339 ; *1927*, 128.
Ur Excavations, Texts I. *1929*, 366.
Urquhart, W. S. *1929*, 625.
al-Ushnandani. *1924*, 133.
Utgikar, N. B. *1924*, 293.
Vaidya, P. L. *1924*, 300.
Valentine, W. H. *1921*, 477 ; *1923*, 311.
Vallée Poussin, L. de la. *1925*, 522.
Vedanta Desika. *1921*, 591.
Verneuil, P. *1927*, 924.
Vidyabhusana, S. C. *1925*, 345.
Vidyabhusana, U. *1923*, 427, 435.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Vidyalankara, P. *1924*, 476.
Vilayet of Beyrut. *1922*, 281.
Viollet, H., et *Flury*, S. *1922*, 636.
Visva-bharati Quarterly, Vol. I. *1924*, 476.
Viswanatha, S. V. *1926*, 155.
Vogel, J. Ph. *1923*, 460 ; *1929*, 364.
Voretzsch, E. A. *1926*, 562.
Waddell, L. A. *1925*, 797.
Waley, A. *1923*, 273 ; *1928*, 414.
Walleser, M. *1924*, 477 ; *1925*, 775 (ed.) ; *1927*, 636) *1928*, 930.
Walter, H. A. *1920*, 262.
Wang Po, Collected Works. *1924*, 471.
Wanger, W. *1928*, 221.
Wart, R. B. van. *1928*, 425.
Waterfield, W. *1924*, 499.
Webster, J. *1924*, 469.
Weigall, A. *1925*, 723.
Weill, R. *1921*, 657.
Weiss, A. *1925*, 730.
Weissbach, F. H. *1924*, 695.
Weld-Blundell, H. *1925*, 360.
Weller, H. *1923*, 625 ; *1927*, 350.
Wensinck, A. J. *1921*, 663 ; *1924*, 498 ; *1925*, 361 (tr.) ; *1927*, 901.
Werner, Alice. *1920*, 103.
Wesendonk, O. G. v. *1927*, 577, 912.
White, W. G. *1923*, 317.
Whitehead, G. *1925*, 373.
Whitehead, R. B. *1923*, 651.
Whymant, A. N. J. *1927*, 391.
Whyte, F. *1928*, 462.
Wiedemann, A. *1921*, 600.
Wiener, H. M. *1928*, 704 ; *1929*, 679.
Wiet, G. *1921*, 624 ; *1923*, 469 ; *1925*, 155 (ed.).

REVIEWS OF BOOKS (*cont.*)

Wijesinhe, C. A. *1923*, 485.
Wilken, G. A. *1924*, 121.
Wilkinson, H. P. *1927*, 380.
Wilkinson, R. J. *1921*, 643.
Williams-Jackson, A. V. *1929*, 657.
Willman-Grabowska, H. *1928*, 672.
Willoughby-Meade, G. *1929*, 207.
Wilson, A. T. *1927*, 585.
Wilson, C. E. *1925*, 324 (tr.).
Winfield, W. W. *1928*, 931.
Winstedt, R. O. *1921*, 638, 640–2 ; *1925*, 121 (ed.) ; *1926*, 750 ; *1927*, 926.
Winternitz, M. *1923*, 421 ; *1926*, 799.
Wood, W. A. R. *1928*, 159.
Woodward, F. L. *1926*, 133 (tr.), 346 ; *1929*, 163.
Woodward, G. R. *1929*, 396.
Woolley, C. L. *1921*, 432 ; *1929*, 681.
Woolner, A. C. *1921*, 633 ; *1926*, 135.
Worrell, W. H. *1924*, 310.
Worsley, A. *1926*, 354.
Wright, A., and *Sclater*, W. L. *1923*, 312.
Wright, W. A. *1926*, 790.
Wüst, W. *1928*, 934.
Yaballaha III. *1928*, 440.
al-Yafi, Abu Md. *1923*, 486.
Yazdani, G. *1929*, 628.
Year Book of Japanese Art, 1927. *1929*, 650.
Yetts, W. P. *1929*, 412.
Yevtic, P. *1927*, 879.
Younghusband, F. *1923*, 148 ; *1925*, 117 ; *1928*, 417.
Yusuf Ali, A. *1929*, 924.
az-Zahawi, Jamil Sidqi. *1929*, 175.
Zahir-i-Faryabi. *1927*, 908.
al-Zamakhshari. *1924*, 130.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF BOOKS (*cont.*)

Zarubin, I. *1928*, 654.
Ziegenbalg, B. *1927*, 340.
Zimmern, H. *1921*, 440 ; *1924*, 108 (tr.).
az-Zinjani. *1928*, 202.

Rgod-Tsan-Smad. Rgod-Tsan-Stod. *1925*, 561.
Richards, F. J. *1927*, 599 (rev.).
Richmond, E. T. *1925*, 165 (rev.) ; *1927*, 393 (rev.).
Rickmers, Mabel. *1929*, 932 (rev.).
Rickmers, W. R. *1929*, 691 (Lecture).
Rigveda verses, Significance of. *1929*, 586–599.
Rim-Sin. *1926*, 679.
Ross, Sir E. D. *1921*, 545–562 ; *1922*, 1–18 ; *1924*, 609–644 ; *1925*, 376 (ob.), 571 (ob.) ; *1926*, 105, 213–237, 503 ; *1927*, 148 (rev.) ; *1928*, 751 (ob.), 991.
Rowe, A. *1920*, 85–95.
Royal Asiatic Soc. Opening of new Quarters. *1920*, 395, 421.
Royal Asiatic Society's Pictures. *1924*, 81.
Rudaki. *1926*, 213–237.
Rudaki and Pseudo-Rudaki. *1924*, 609–644.
Ru . i. *1929*, 512.
Rumlu tribe. *1927*, 311.
Rutter, Eldon. *1929*, 952 (Lecture).
Ryojin Hissho. *1921*, 193.
Sabbath in Babylonia and Amurru. *1920*, 583–9.
Sacu Region, Tibet. *1927*, 807–844 ; *1923*, 63–98.
Saddharma-Pundarika, Central Asian Recensions. *1927*, 252.
Safawi Dynasty. *1921*, 395–418.
Sahih of al-Bukhari. *1923*, 43–63.
Sahni, D. R. *1924*, 399 ; *1927*, 689 (Pl.).
Said-Ruete, R. *1929*, 955 (Lecture).
As-Sa'idiya. *1926*, 1.
Saka Period. *1920*, 211 ; *1925*, 1 ; *1926*, 643–665 ; *1928*, 139.
Sakais. *1924*, 65 ; *1929*, 752.
Sakara. *1925*, 237.
Sale of a Priesthood. 1925, 100.
as-Salih Telaye (mosque). *1923*, 576.
Salman Ra'is. *1922*, 1–12.
Salmon, W. H. *1921*, 597 (revs.).
Samaddar, J. N. *1925*, 673.
Samatata. *1920*, 1–19.
Samaritan Periapt. *1920*, 343.
Samsi-Adad V. *1928*, 518–554.
Samsuiluna. *1925*, 94.
Sankar, K. G. *1924*, 664 ; *1926*, 584 (ob.).
Sannyasis of the Vedanta. *1925*, 479.
Sanskrit Masculines Plural in -Ani. *1924*, 449, 655.
Sanskrit Monologue - Play (Bhana). *1926*, 63–90.
Sanskrit Names of Drugs in Kuchean. *1925*, 623–638.
Sara. *1920*, 21–4.
Saracos. *1921*, 383.
Saradatanaya. *1928*, 878.
Sargon, Confirmation of Endowments by Priests and Officials. *1928*, 519–554.
Sarvananda. *1928*, 900.
Sastri, T. G. *1924*, 668.
Sastri, K. A. Nilakanta. *1926*, 643–665.
Sastri, S. S. *1926*, 487.
Satakarni. *1929*, 273.
Satavahanas. *1923*, 88 ; *1926*, 643–665.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Satiyaputra. *1922*, 84 ; *1923*, 609.
Satyaputra. *1923*, 411.
Saundara-nanda. *1928*, 131.
Sayce, A. H. *1920*, 49–83, 297–303, 602–5 (revs.), 648–651 (rev.) ; *1921*, 47, 295 (rev.), 439–445 (revs.), 583 ; *1922*, 132 (rev.), 177–190, 265, 537–572 ; *1923*, 131 (rev.), 409, 464 (rev.), 559–571, 626 (rev.) ; *1924*, 111 (rev.), 245–255, 645–655 ; *1925*, 707, 721–8 (revs.), 819 (ob.) ; *1926*, 783 (rev.) ; *1927*, 87, 699 ; *1928*, 257, 973 (rev.) ; *1929*, 188 (rev.), 297–336 ; 887–898 (revs.)
Schebesta, P. P. *1929*, 749–760 (Pls. X–XIII).
Seals, Babylonian and Assyrian. *1927*, 43.
Seals, Cappadocian. *1922*, 265.
Seals, Indo-Sumerian. *1926*, 115.
Seddon, C. N. *1927*, 307 ; *1929*, 920 (rev.).
Sema Naga, Use of Tones. *1927*, 103.
Semang Tribe. *1929*, 750.
Sennacherib's Tablets. *1928*, 519–554.
Serpent, Great, War with. *1922*, 177–190.
Sesostris. *1923*, 182.
Sewell, R. *1920*, 252 (rev.), 253 (rev.), 333–341 ; *1923*, 126 (rev.) ; *1924*, 138 (rev.).
Shaft. *1920*, 285.
Shah 'Abbas. *1920*, 279 ; *1924*, 603.
Shah Isma'il. *1924*, 598.
Shahbandar (The). *1920*, 517–553 ; *1921*, 246.
Shahiya Kingdom of Ohind. *1927*, 485–495.
Shaikhi. *1929*, 445.
Shahu. *1922*, 352.
Shakspear, J. *1923*, 299 (rev.) ; *1927*, 364 (rev.).
" Shalamians " of Arabia. *1927*, 529.
Shamasastry, R. *1925*, 86.
Shamash. *1929*, 285.
Shams-i-Siraj 'Afif. *1922*, 368.
Shandarmin. *1920*, 281.
Shang Dynasty. *1921*, 30.
Sharma, Sri Ram. *1926*, 295 ; *1928*, 399.
Sher Shah's Revenue System. *1926*, 447–459.
Shi'ahs. *1924*, 73.
Shih - li - ch'a - to - lo identified. *1920*, 1–6, 447–452.
Shuttleworth, H. Lee. *1928*, 160 (rev.) ; *1929*, 644 (rev.), 929 (rev.).
Sibt Ibnu 'l-Jawzi. *1928*, 265 ; *1929*, 226.
Siddiqi, A. *1927*, 559.
Sidersky, M. *1920*, 565–572 ; *1929*, 767–789.
Siladitya. *1926*, 487.
Si-ma Kuang. *1928*, 770.
Simkurru. *1922*, 91.
Sina, see Shina.
Sina *Bodu*. 1927, 313.
Sindhi. *1924*, 555–584 ; *1925*, 86.
Sinhalese, Colloquial. *1921*, 209.
Sin-sar-iskun. *1921*, 383.
Sisikottos. *1928*, 902.
Sita. *1921*, 422.
Sita Ram. *1921*, 239 ; *1928*, 400.
Sitaram, K. N. *1924*, 229.
Skeat, W. W. *1928*, 919 (rev.).
Sköld, H. *1924*, 265 ; *1926*, 667–678.
Smirnov, V. D., A Memoir. *1928*, 408.
Smith, V. *1925*, 37–60, 299, 508 ; *1926*, 433–446 (Pl.), 794 (rev.) ; *1927*, 405 (rev.),

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

561 (rev.) 568–571 (revs.), 895 (rev.); *1928*, 466 (rev.), 618, 622, 849–875; *1929*, 383 (rev.).
Smith, V. A. *1920*, 113 (rev.), 118 (rev.), 221–6, 227–9.
Snan-rtse. *1928*, 588.
Snan . sdan. *1928*, 588.
Société Asiatique Centenary. *1922*, 650.
Soane, E. B. *1921*, 57–81; *1922*, 191–226; *1923*, 471 (rev.).
Sod. *1928*, 592.
Soma. *1920*, 349; *1921*, 241.
Somnath. *1928*, 253.
Soothill, W. E. *1925*, 121 (rev.); *1927*, 926 (rev.).
Sravasti. *1927*, 689.
Ssu-ma Ch'ien. *1921*, 30; *1926*, 301.
Stagu. *1928*, 589.
Stater in Khotan. *1926*, 671.
Stede, W. 1926, 569 (rev.); *1927*, 627 (rev.), 883 (rev.); *1928*, 950 (rev.).
Stein, A. *1925*, 399.
"Sthanam." *1927*, 323.
Sthiramati. *1929*, 463.
Storey, C. A. *1921*, 448 (rev.); *1923*, 457; *1926*, 103.
Subhasitavali. *1927*, 471; *1928*, 135, 403.
Subramaniam, T. N. *1922*, 84; *1923*, 88, 93.
Subrahmanyam, K. G. *1925*, 502.
Sudraka. *1923*, 601.
Sudras. *1923*, 265.
Sugiura. *1929*, 454.
Sulaiman, Sultan. *1921*, 19 et seq.
Sulayman Pasha al-Khadem. *1922*, 12.
Sumer. *1921*, 169.
Sumerian Clay-tablets. *1923*, 393.
Sumerian Connexions with Ancient India. *1925*, 697.
Sumerian Law Code. *1920*, 489–515.
Sunga Railing Pillars. *1927*, 847.
Sunnis. *1924*, 73.
Sunqur Sa'dy, Amir. *1923*, 575.
Suresvara. *1923*, 259; *1924*, 96.
Surparaka. *1927*, 111; *1928*, 410.
Surrosh, K. Cama Prize. *1922*, 91, 588.
Susa. *1925*, 700; *1928*, 35–50.
Svapna-Vasavadatta. *1922*, 80; *1924*, 668; *1925*, 99; *1928*, 877–90.
Syamilaka. *1924*, 262.
Sykes, P. M. *1922*, 453 (rev.), 596 (rev.); *1923*, 487 (rev.); *1924*, 504 (ob.); *1926*, 351 (rev.), 803 (rev.); *1927*, 164 (rev.).
Syrian Arabic. *1920*, 305–318.
Syriaque et Nabateen. *1923*, 263, 417.
Tabaqat ash-Shu'ara. *1926*, 269.
Tabaqat of Ansari. *1923*, 1–34, 337–382.
Tabari. *1925*, 516.
Taghi. *1922*, 359.
T'ai Language. *1928*, 769.
Talish-Dulab. *1920*, 282.
Tamil *pambu*, Sanskrit *papa*. *1923*, 619.
Tammuz, Idin-Dagan as. *1926*, 15–42.
Ta'rikh-i Fakhru'd-Din Mubarakshah. *1929*, 583.
Tarka-sastras. *1929*, 451.
Tavernier. *1926*, 491.
Tawaif-I Mutafarriqeh. *1923*, 228.
Taxation in Islam. *1928*, 485.
Taylor Cylinder. *1928*, 546.
Tembe tribe. *1929*, 751.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Temple, R. C. *1921*, 283 (rev.), 595 (rev.); *1922*, 284, 442 (rev.), 597 (rev.), 605 (rev.); *1923*, 83, 265, 288 (rev.), 415, 640 (rev.), 670 (ob.); *1925*, 339 (rev.); *1926*, 358 (rev.), 788 (rev.); *1927*, 343 (rev.); *1928*, 453–8 (rev.); *1929*, 639–642 (revs.).
Temple Worship in Hinduism. *1928*, 15.
Terminational Elements in Indo-Aryan. *1927*, 227.
Texts, Cuneiform. *1920*, 49–81.
Texts, Hittite Hieroglyphic, Decipherment. *1922*, 537–572.
Text, Seleucid Legal. *1925*, 655–671.
Tholos aryenne du Malabar. *1926*, 715.
Thoma, P. J. *1923*, 411.
Thomas, E. J. *1923*, 116–120 (revs.); *1927*, 357 (rev.), 631 (rev.), 881 (rev.); *1928*, 174 (rev.); *1929*, 163–4 (revs.), 352–9 (revs.), 613–620 (revs.), 870.
Thomas, F. W., and *Clauson*, G. L. M. *1927*, 281–306.
Thomas, F. W., *Miyamoto*, S., and *Clauson*, G. L. M. *1929*, 37–76 (Pl.), 944 (rev.).
Thomas, F. W. *1920*, 384–9 (revs.); *1921*, 277–283 (revs.), 665 (ob.); *1922*, 79, 83, 146 (ob.); *1923*, 152 (ob.), 154 (ob.); *1924*, 94, 261, 262, 449, 671; *1925*, 100, 104, 108, 110, 498, 519 (rev.), 814 (ob.), 815 (ob.); *1926*, 311, 312, 505, 507, 508–526. *1927*, 51–85, 121, 123, 409 (ob.), 544, 546–558, 807–844, 858. *1928*, 63–98, 399, 411 (rev.), 555–595, 630, 714, 877–890.
Thompson, E. *1927*, 322.
Thompson, R. Campbell. *1923*, 151 (ob.), 233 Pls. *1924*, 258, 452, 669; *1925*, 81; *1926*, 100, 723; *1929*, 339, 428 (Lecture), 801–823.
Tibetan Alphabet. *1929*, 843.
Tibetan Documents. *1927*, 51–85; 807–844; *1928*, 63–98; 555–595.
Tibetan Word Forms. *1928*, 896.
al-Tijan fi Akhbar Qahtan. *1925*, 507.
Tikasarvasva. *1928*, 900.
Timing of Plays in India. *1928*, 893.
Tin, Pe Maung. *1923*, 265; *1924*, 122 (rev.).
Tirahi. *1925*, 399–416.
Todar Mal. *1926*, 52.
Tones in Oriental Languages. *1920*, 453–479; *1927*, 103.
Topography, Baghdad. *1926*, 609.
Topography, Cairene. *1927*, 57.
Torday, E. *1920*, 103 (rev.).
Torwali. *1927*, 853.
Toynbee, A. J. *1922*, 274.
Tragacanth and Mandrak in Cuneiform. *1926*, 100.
Translations. Arabic of the New Testament. *1926*, 275.
Tripathe, R. S. *1928*, 629.
Triennial Gold Medal Presentation. *1922*, 642; *1925*, 314.
Tritton, A. S. *1920*, 121; *1925*, 516; *1927*, 479; *1928*, 405; 458–508.
Troup, J. *1920*, 599–601 (rev.).
r Tse-hthon. *1928*, 589.
r Tse-rgod. *1928*, 590.
Tshal-byi. *1928*, 555.
Tubba'. *1925*, 432.
Tucci, G. *1928*, 1; *1928*, 905; *1929*, 247–258, 451–488, 870.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Tughluq Dynasty. *1922*, 319.
Tul and Naw. *1920*, 279.
Tulam. *1920*, 284.
Tulsi Das. *1922*, 374.
Tun Huang. *1925*, 113 ; *1926*, 116, 298.
Turkish Manuscript in Uighur Characters. *1928*, 99–130.
Turkish " R ". *1927*, 521.
Turkish Shrine in Western Macedonia. *1929*, 289.
Turks in the Indian Ocean. *1921*, 1–12.
Turner, R. L. *1921*, 329–365, 505–544. *1924*, 555–584 ; *1925*, 86, 173–180 (revs.) ; *1926*, 364 (rev.) ; *1927*, 227–239 ; *1928*, 661–8 (revs.)
Uddaka. *1927*, 194.
Uighur Turkish Manuscript. *1928*, 99–130.
U Kur-kur = Hellebore. *1924*, 669.
Ullugh Khan. *1922*, 331.
Upright Gupta Script. *1927*, 258.
Ur. *1922*, 389 ; *1926*, 689–713 ; *1927*, 791, 795 ; *1928*, 148, 635, 862.
Ur-Ningirsu. *1922*, 393.
Ur-Ninurta. *1925*, 487.
" Usnisa." *1928*, 829.
Vallabhadeva. *1928*, 403.
Vamba-Moriyas. *1923*, 93.
Varma, S. *1925*, 21–35.
" Vasthanam " in Asvaghosa. *1927*, 322.
Vasubandhu. *1929*, 451.
Vasudeva. *1925*, 265.
Venadu. *1922*, 163.
Vibhajjavadins. *1929*, 28.
Vichitakiha i Zatsparam. *1928*, 3.
Vijaya. *1925*, 110.
Vikramaditya. *1925*, 81.
Vidyabhusana. *1929*, 454.
Virgilius Cordubensis. *1929*, 599.
Visakhadatta. *1923*, 585.
Vitasta-Hydaspes. *1927*, 115.
Vogel, J. Ph. *1925*, 144 ; *1927*, 586–597 (revs.) ; *1929*, 113.
Waddell, L. A. *1922*, 266, 580 ; *1926*, 115.
Wahm in Arabic and its Cognates. *1922*, 505–521.
Waih in Persian Proper Names. *1924*, 97.
Wakhi. *1924*, 191.
Waldschmidt, E., *1926*, 116, 298.
Waley, A. D. *1921*, 193, 662–3 (revs.) ; *1923*, 124 (rev.).
Walsh, E. H. C. *1922*, 593 (rev.) ; *1928*, 947 (rev.) ; *1929*, 160–2 (revs.), 361–2 (rev.).
War with the Great Serpent. *1922*, 177–190.
Warangal. *1922*, 321.
Wardrop, O. *1922*, 109 (rev.) ; *1923*, 307 (rev.), 630 (rev.) ; *1927*, 887 (rev.) ; *1928*, 212 (rev.), 709 (rev.) ; *1929*, 194–6 (revs.), 400–2 (revs.), 684 (rev.).
Wasiyat-nama-i-makhfi. *1923*, 78.
Weigall, A. *1921*, 272 (rev.), 602–610 (revs.).
Weir, J. H. *1920*, 373–5 (rev.) ; *1923*, 143 (rev.), 621 (rev.).
Weld-Blundell, H. *1923*, 134 (rev.), 150 (rev.).
Wensinck, A. J. *1920*, 231–2 ; *1921*, 125.
Werner, A. *1923*, 116 (rev.) ; *1924*, 726 (rev.).
Whitehead, R. B. *1926*, 740–2 (revs.) ; *1928*, 443–7 (revs.) ; *1929*, 259–272 (Pl.), 361 (rev.).
Whymant, A. N. J. *1926*, 257–267.
Williams-Jackson, A. V. *1928*, 1.
Willoughby-Meade, G. *1924*, 444.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Wilkinson, J. V. S. *1929*, 403, 882 (rev.).
Wilson, A. T. *1925*, 189 (ob.); *1928*, 175 (rev.); *1929*, 657 (rev.), 666 (rev.).
Wilson, J. M. *1928*, 204.
Wima Kadphises. *1928*, 139.
Winckworth, C. T. P. *1925*, 547 (rev.), 655–671.
Winstedt, R. O. *1923*, 317 (rev.).
Wolfenden, S. N. *1928*, 896; *1929*, 581, 869.
Women as inheritable property. *1925*, 81.
Woolley, C. L. *1922*, 427; *1926*, 689–713 (Pls.); *1928*, 35–50, 635.
Woolner, A. C. *1924*, 439; *1925*, 623–638.
Yach. *1929*, 526.
Yacholo. *1929*, 527.
Yate, C. E. *1926*, 290.
Yellin, D. *1920*, 597.
el-Yemen. *1920*, 121.
Yetts, W. P. *1920*, 368–72 (rev.), 671–2 (ob.); *1921*, 136 (rev.), 298 (rev.); *1922*, 97–102 (revs.), 397–426; *1923*, 271–5 (revs.); *1924*, 98, 274 (rev.), 463–6 (revs.); *1925*, 355 (rev.); *1926*, 550–568 (revs.); *1927*, 643–5 (revs.); *1928*, 649–651 (revs.); *1929*, 337, 943–4 (revs.).
Yezdi dialect. *1928*, 288.
Yezidis. *1921*, 117.
Yoga. *1927*, 854.
Yogacara School. *1929*, 454.
Yuan Chwang. *1920*, 1–19, 447–452.
Yusuf-Ali, A. *1921*, 614 (rev.); *1922*, 451 (rev.); *1925*, 343 (rev.); *1928*, 986 (ob.).
Yusuf and Zulaikha. *1929*, 103.
"Yuzghat" Inscription Revised. *1924*, 645–655.
Zaid b. 'Amr b. Nufail. *1925*, 439.
Zanjan and the Babis. *1927*, 461.
Zaraθustra. *1929*, 735.
Zorastrian Doctrine of the Resurrection. *1928*, 1..

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ROYAL ASIATIC SOCIETY PUBLICATIONS

ASIATIC SOCIETY MONOGRAPHS.

Vols. XX–XXI.

A Study in the Economic Condition of Ancient India. By DR. PRAN NATH. 1929. Price 12s. 6d.

The Kumzari Dialect of the Shihuh Tribe, Arabia, and a Vocabulary. By BERTRAM THOMAS. 1930. Price 2s. 6d.

PRIZE PUBLICATION FUND.

Vols. XII–XIII.

Outlines of Tibeto-Burman Linguistic Morphology. By S. N. WOLFENDEN. 1930. 15s.

A Guide to Ismaili Literature. By W. IVANOW. 1933. 9s.

ORIENTAL TRANSLATION FUND.

Vol. XXXI.

Vicitrakarṇikāvadānoddhṛta. Nevārī Text and Translation. Edited by Dr. HANS JÓRGENSEN. 1931. 12s. 6d.

JAMES G. FORLONG FUND.

Vols. VI–X.

Falakī-i-Shīrwāni. His Times, Life and Works. By HĀDĪ ḤASAN. 1929. 12s. 6d.

Critical Studies in the Phonetic Observations of Indian Grammarians. By S. VARMA. 1929. 12s. 6d.

The Elements of Japanese Writing. By Commander N. E. ISEMONGER. 1929. £1 5s.

Falakī-i-Shīrwāni. His Dīwān. By HĀDĪ ḤASAN. 1929. 10s.

Ta'rīkh-i-Jahān-Gushāy of Juwayni, Vol. III, Facsimile of MS. dated A.H. 690, belonging to Wahīd-ul-Mulk. With Introduction by Sir E. Denison Ross. 1931. 7s. 6d.

Dialogues in the Eastern Turki Dialect on Subjects of Interest to Travellers. By R. O. WINGATE and Sir E. DENISON ROSS. *In the Press.*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ROYAL ASIATIC SOCIETY
OF
GREAT BRITAIN AND IRELAND,

74 Grosvenor Street, W. 1.

SPECIAL NOTICE.

The JOURNAL of the ROYAL ASIATIC SOCIETY is published quarterly. It is frequently illustrated and it contains Original Articles on the Languages, the Archæology, the History, the Beliefs and the Customs of the East.

Each quarter the principal books published on Oriental subjects are reviewed.

The Annual Subscription to the Society is THREE GUINEAS for Resident Members, TWO GUINEAS for Non-resident Members residing in the British Isles, and THIRTY SHILLINGS for Non-resident Members residing abroad.

Each Member, whose Subscription for the current year has been paid, receives the Journal post free, has the use of the Library at the Society's rooms, and admission to the meetings of the Society. Three-guinea Subscribers may also borrow books.

Libraries and persons who are not Members may obtain the Journal post free by paying a Subscription of **Two Pounds Eight Shillings** a year in advance direct to the Secretary. The price of each part separately is **Fifteen Shillings.**

NOTICE TO MEMBERS AND STUDENTS.

Teas can be supplied by the Caretaker at a small charge.

STEPHEN AUSTIN AND SONS, LTD., PRINTERS, HERTFORD.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

FIRST QUARTER

JANUARY, 1920

THE

JOURNAL

OF THE

ROYAL ASIATIC SOCIETY

OF

GREAT BRITAIN AND IRELAND

With which are incorporated the Proceedings of the Society of Biblical Archaeology

905
2

January

1920

JANUARY 15

PUBLISHED BY THE SOCIETY
74 GROSVENOR STREET, LONDON, W. 1

Price Twelve Shillings

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

INDEX

TO THE

TRANSACTIONS AND JOURNAL

OF THE

ROYAL ASIATIC SOCIETY

FOR THE YEARS 1827–1888.

Price Three Shillings and Sixpence.

INDEX

TO THE

JOURNAL

OF THE

ROYAL ASIATIC SOCIETY

FOR THE YEARS 1889-1903.

Price Three Shillings and Sixpence.

PAMPHLETS.

A List of the Pamphlets for Sale up to 1903 can be obtained on application.

LONDON:
THE ROYAL ASIATIC SOCIETY,
74 GROSVENOR STREET, W. 1

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ROYAL ASIATIC SOCIETY'S PUBLICATIONS

ON SALE AT THE ROOMS OF THE SOCIETY

74 GROSVENOR STREET, LONDON, W. 1

905/2

ORIENTAL TRANSLATION FUND

NEW SERIES

(1–5) REHATSEK (E.). Mīr Khwānd's "Rauẓat-us-Safā" or "Garden of Purity". 1891 to 1894. Price 10*s.* a volume (7*s.* 6*d.*).

(6) TAWNEY (C. H.). The Kathā Koṣa. 1895. Price 10*s.* (7*s.* 6*d.*).

(7) RIDDING (Miss C. M.). Bāṇa's Kādambarī. 1896. Price 10*s.* (7*s.* 6*d.*).

(8) COWELL (E. B.) and THOMAS (F. W.). Bāṇa's Harṣa Carita. 1897. Price 10*s.* (7*s.* 6*d.*).

(9) CHENERY (T.). The first twenty-four Maḳāmāts of al Ḥarīrī. 1898. Price 15*s.* (12*s.*).

(10) STEINGASS (F.). The last twenty-four Maḳāmāts of al Ḥarīrī. 1898. Price 15*s.* (12*s.*).

(11) GASTER (M.). The Chronicles of Jerahmeel. 1899. Price 10*s.* (7*s.* 6*d.*).

(12) DAVIDS (Mrs. Rhys). The Dhamma Sangaṇi. 1900. Price 10*s.* (7*s.* 6*d.*). *Out of print.*

(13) BEVERIDGE (Mrs. H.). Life and Memoirs of Gulbadan Begum. 1902. Price 10*s.* (7*s.* 6*d.*).

(14, 15) WATTERS (T.). On Yuan Chwang's Travels. Edited by T. W. Rhys Davids and S. W. Bushell. 1904–5. Price 10*s.* a volume (7*s.* 6*d.*).

(16) WHINFIELD (E. H.) and MIRZA MUḤAMMAD KAZWINI. The Lawā'iḥ of Jāmī. Facsimile of an old MS., with a translation and a preface on the influence of Greek philosophy upon Sufism. Second edition, 1914. Price 5*s.* (4*s.* 6*d.*). *Out of print.*

(17) BARNETT (L. D.). Antagaḍa-dasāo and Aṇuttarovavāiya-dasāo. From the Prakrit. 1907. Price 5*s.* (4*s.* 6*d.*).

(18) KEITH (A. Berriedale). The Sāṅkhāyana Āraṇyakā. 1908. Price 5*s.* (4*s.* 6*d.*).

(19, 22) ROGERS (A.). Memoirs of Jahāngīr. Edited by H. Beveridge. Vol. I, 1909. Vol. II, 1914. Price 10*s.* a volume (7*s.* 6*d.*).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(20) NICHOLSON (R. A.). The Tarjumān al-Ashwaq of Ibn al-'Arabī. Text and Translation. 1911. Price 7*s.* 6*d.* (6*s.*).

(21) WARDROP (Miss M.). The Man in the Panther's Skin. By Shot'ha Rust'haveli. 1912. Price 10*s.* (7*s.* 6*d.*).

(23) WARDROP (O.). Visramiani. The Story of the Loves of Vis and Ramin. A romance of Ancient Persia. Translated from the Georgian Version. Price 10*s.* (7*s.* 6*d.*).

(24) UI (Professor). Vaisesika Philosophy, according to the Dasapadartha Sastra. Chinese Text and Translation. 1918. Price 7*s.* 6*d.* (6*s.*).

MARGOLIOUTH (D. S.). The Hesht Bihisht. (*In preparation.*)

ASIATIC SOCIETY MONOGRAPHS

(1) GERINI (Colonel G. E.). Researches on Ptolemy's Geography (Further India and the Indo-Malay Peninsula). 8vo. 1909. Price 15*s.* (12*s.*).

(2) WINTERNITZ (Dr. M.). Catalogue of Sanskrit MSS. in the R.A.S., with an Appendix by F. W. Thomas. 8vo. 1902. Price 5*s.* (3*s.* 6*d.*). *Out of print.*

(3) HIRSCHFELD (Dr. H.). New Researches into the Composition and Exegesis of the Qoran. 4to. 1902. Price 5*s* (3*s.* 6*d.*).

(4) DAMES (M. Longworth). The Baloch Race. 8vo. 1904. Price 5*s.* (3*s.* 6*d.*).

(5) LE STRANGE (Guy). Mesopotamia and Persia in the Fourteenth Century A.D., from the Nuzhat-al-Kulūb of Ḥamd-Allah Mustawfī. 8vo. 1903. Price 5*s.* (3*s.* 6*d.*). *Out of print.*

(6) BROWNE (Professor E. G.). Chahár Maqála of Nidhámí-i-'Arúḍí-i-Samarqandí. 8vo. 1899. *Out of print.*

(7) CODRINGTON (O.), M.D., F.S.A. A Manual of Musalman Numismatics. 8vo. 1904. Price 7*s.* 6*d.* (5*s.*).

(8) GRIERSON (G. A.), C.I.E. The Piśāca Languages of North-West India. 8vo. 1906. *Out of print.*

(9, 10) DAMES (M. Longworth). Popular Poetry of the Baloches. Text and translation. Two vols. 8vo. 1907. Price 15*s.* (11*s.* 6*d.*).

(11) SAYCE (Professor A. H.) and PINCHES (T. G.). The Tablet from Yuzgat in the Liverpool Institute of Archæology. 8vo. 1907. Price 5*s.* (3*s.* 6*d.*).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(12) BAILEY (Rev. T. Grahame). The Languages of the Northern Himalayas, being studies in the Grammar of Twenty-six Himalayan Dialects. 8vo. 1908. Price 5*s.* (3*s.* 6*d.*). *Out of print.*

(13) BAILEY (Rev. T. Grahame). Kanauri Vocabulary. 8vo. 1911. Price 3*s.* (2*s.* 6*d.*).

(14) LE STRANGE (Guy). Description of the Province of Fārs, in Persia, from the MS. of Ibn-al-Balkhī. 8vo. 1912. Price 5*s.* (3*s.* 6*d.*).

(15) BRANDSTETTER (R.). An Introduction to Indonesian Linguistics, translated by C. O. Blagden. 8vo. 1916. Price 7*s.* 6*d.* (6*s.*).

(16) PINCHES (T. G.). Tablets from Lagaš and other Babylonian Sites in the possession of Randolph Berens, Esq. 8vo. 1915. Price 5*s.* (3*s.* 6*d.*).

(17) BAILEY (Rev. T. Grahame). Linguistic Studies from the Himalayas. (*In the press.*)

GASTER (M.). El-Asatir, or the Samaritan Apocalypse of Moses. (*In preparation.*)

ROYAL ASIATIC SOCIETY
PRIZE PUBLICATIONS FUND

(1) HULTZSCH (Professor E.). Prākṛitarūpāvatāra of Simharāja. The Text in Nāgarī characters, with Notes, Introduction, and Index. 8vo. 1909. Price 7*s.* 6*d.* (5*s.*).

(2) BODE (Mabel Haynes), Ph.D. The Pali Literature of Burma. 8vo. 1909. Price 5*s.* (3*s.* 9*d.*).

(3) HULTZSCH (Professor E.). The Mēghadūta with Vallabha's Commentary. 8vo. 1911. Price 7*s.* 6*d.* (5*s.*).

(4) BRAY (Denys de S.). The Life-history of a Brāhūī. 8vo. 1913. Price 5*s.* (3*s.* 9*d.*).

(5) GRIERSON (Sir G. A.), K.C.I.E., Ph.D. Iskāsmī, Zēbakī, and Yāzghulāmī. (*In the press.*)

(6) LORIMER (Major D. L. R.), I.A. Bakhtiari Grammar. (*In the press.*)

The special price to members of the Society is printed beside the full price

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

LUZAC & CO.

46 GREAT RUSSELL STREET, LONDON, W.C.1.

Agents and Publishers to the India Office, Academy of Sciences, Petrograd, etc., etc.

LUZAC & CO. are able to supply at short notice all English, Foreign, and Oriental Books, and also have a large stock of Second-hand Oriental Books of which Catalogues are issued and can be supplied on application.

SOME NEW AND TOPICAL PUBLICATIONS.

DUBASH (P. S. G.). ROMANCE OF SOULS. A Philosophic Romance in Verse. 8vo, cloth, pp. 155. Price 5*s*.

—— COLOUR AND THE CHILD. With Foreword by Dr. H. HAYWARD. 8vo, pp. 40. Price 2*s*.

COOMARASWAMY (Dr. A.). THE DANCE OF SIVA—Fourteen Indian Essays—Hindu View of Art—Buddhist Primitives—Indian Music—Status of Indian Women—Young India—Indian Images with Many Arms, etc., etc. 8vo, pp. 139, frontispiece, and 27 plates, cloth. Price 12*s*. 6*d*.

TANTRIK TEXTS.—Vol. V: Kularnava Tantra, edited by TARANATHA VIDYARATNA, with Introduction in English by ARTHUR AVALON. Price 4*s*. 6*d*.—**Vol. VI: Kulivilasa Tantra**, edited by PARVATI CHARANA TARKATIRTHA, with English Introduction by ARTHUR AVALON. Price 3*s*.

"WAVE OF BLISS" (Anandalahiri), a Translation and Commentary by ARTHUR AVALON. Price 2*s*. 6*d*.

"GREATNESS OF SHIVA" (Mahimnastava of Pushpadanta), a Translation and Commentary by ARTHUR AVALON, together with Sanskrit Commentary of JAGANNATHA CHAKRAVARTHI. Price 2*s*. 6*d*.

ORIGIN OF VAJRAYANA DEVATAS. By ARTHUR AVALON. Price 1*s*.

RAU (K. S.). THE CRISIS IN INDIA. 8vo, pp. vii, 178. Price 3*s*. 6*d*. net.

KENNY (J.). INTENSIVE FARMING IN INDIA. 2nd edition. Price 8*s*. 6*d*. net.

THE SUSHRUTA SAMHITA, AN ENGLISH TRANSLATION OF. With full and comprehensive introduction, additional texts, etc. Edited by K. K. L. BHISHAGRATNA. Vol. III: Uttara-Tantra. Completion of work. Price 21*s*. net.

MERCANTILE DIRECTORY OF JAPAN, 1917–18. Roy. 8vo, pp. 422. Price 7*s*. 6*d*. net.

INDIAN MERCANTILE DIRECTORY, 1918. Roy. 8vo, pp. 286, 261, and 94. Price 15*s*. net.

JOURNAL OF THE BIHAR AND ORISSA RESEARCH SOCIETY. Vol. III, Part IV. Roy. 8vo, pp. 425–578. Plates and illustrations. Price 8*s*. net.

JOURNAL OF THE SOCIETY OF ORIENTAL RESEARCH, CHICAGO. Vol. II, No. 1. Roy. 8vo. Price 6*s*. net.

SUN TZU on the ART OF WAR. The oldest Military Treatise in the world. Translated from the Chinese by L. GILES. 8vo, pp. liii, 201. Price 10*s*. 6*d*. net.

ARABIC MANUAL. A Colloquial Handbook in the Syrian Dialect for the use of visitors to Syria and Palestine. By F. E. CROWE. 8vo, pp. vi, 333, cloth. Price 8*s*. 3*d*. net.

A NEW PRACTICAL GRAMMAR OF THE MODERN ARABIC OF EGYPT. By S. SPIRO BEY. 8vo, pp. xiv, 251. Price 9*s*. 3*d*. net.

WORTABET (W. T.). ARABIC-ENGLISH DICTIONARY. 3rd edition, large 8vo, pp. 802, half-bound. Price £1 2*s*. net.

CORYN (G. G. P.). THE FAITH OF ANCIENT EGYPT. Roy. 8vo, pp. 60, with many illustrations and two folding plates in pocket, cloth. Price 4*s*. net.

SOANE (E. B.). GRAMMAR OF THE KURMANJI OR KURDISH LANGUAGE. 8vo, pp. xiii. 289, cloth. Price 8*s*. 6*d*. net.

VILLAGE FOLK-TALES OF CEYLON. Collected and translated by H. PARKER. Vol. III. 8vo, pp. viii, 479, cloth. Price 12*s*. net.

SHAHINDA (B. F. R.). INDIAN MUSIC. With a Preface by F. G. WEBB. 8vo, pp. 96. Price 2*s*. 6*d*. net.

BOSE (P. N.). EPOCHS OF CIVILIZATION. 8vo, pp. 355, cloth. Price 6*s*. net.

DHALLA (M. N.). ZOROASTRIAN THEOLOGY. 8vo, cloth. Price 10*s*. net.

CHATTERJI (J. G.). KASHMIR SHAIVAISM. Being a brief introduction to the history, literature, and doctrines of the Advaita Shaiva Philosophy of Kashmir, specifically called the Trika System. 8vo, pp. 166. Price 2*s*. 6*d*. net.

IN MEMORIAM. THEODORE DUKA (1825–1908). By M. AUREL STEIN, K.C.I.E. Being a Lecture read before the Hungarian Academy of Science, October 27, 1913. With portrait. Roy. 8vo, pp. 35, boards. Price 2*s*. 6*d*. net.

MODI (J. J.). MORAL EXTRACTS FROM ZOROASTRIAN BOOKS. Medium 8vo, pp. xv, 46, cloth. Price 3*s*. 6*d*. net.

CARTWRIGHT (B. O.). THE STUDENT'S MANUAL OF THE SIAMESE LANGUAGE. 8vo, pp. 320, cloth. Bangkok. Price 12*s*. 6*d*. net.

RAO (T. A. G.). ELEMENTS OF HINDU ICONOGRAPHY. 2 vols. Roy. 8vo, pp. xxxiii, 400, 160, and 29, cloth. Madras. Price £1 10*s*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

W. HEFFER & SONS, LTD.

General Booksellers and Publishers,

CAMBRIDGE.

We carry an extensive stock of Oriental Literature, of which special catalogues are issued periodically. We make a speciality of the supply of journals and other periodicals relating to the East, and librarians are invited to send lists of their lacunæ. Complete sets of the most important journals are generally in stock. We are prepared to purchase entire libraries.

A First Course of English Phonetics.

Including an explanation of the scope of the science of phonetics, the theory of sounds, a catalogue of English sounds, and a number of articulation, pronunciation, and transcription exercises.

H. E. PALMER, author of *Colloquial English.* Cr. 8vo. **2s. 6d.** net.

Colloquial English. Part I. 100 Substitution Tables.

H. E. PALMER, author of *Manuel d'Anglais parlé.* Fcap. 4to. Phonetic and orthographic texts in separate books under one cover. **2s. 6d** net.

"A most original and exhaustive book for the teaching of English by the means of Phonetics. The author, by a very ingenious tabular arrangement, has made it possible for the book to be extended from 100 tables of twelve sentences each into so vast a number of sentences that the mind is entirely unable to grasp the almost infinite possibilities of the volume."

Egyptian Colloquial Arabic—A Conversation Grammar.

By W. H. T. GAIRDNER, B.A Oxon., of the Church Missionary Society, Cairo, Superintendent of Arabic Studies in the Cairo Study Centre. Demy 8vo. **12s. 6d.** net.

"... there is no doubt that Canon Gairdner's book is a valuable contribution to modern Arabic literature and will prove a great help to those who wish to master its intricacies. I have nothing but praise for the author's labours to enrich the literature of modern Arabic with a lasting contribution ... which I strongly recommend to all Englishmen anxious to learn the difficult but beautiful language spoken by the modern Egyptians."—Professor S. Spiro in *The Egyptian Mail.*

In preparation.

Catalogue 176. Oriental Books. Consisting of important Recent Purchases, including the Library of the late Dr. W. Hoey.

Post free upon application.

PHONETIC PUBLICATIONS.

A new volume in Heffer's Phonetic Series.

Lectures Françaises Phonétiques.

Par PAUL PASSY, Docteur ès lettres. Crown 8vo. Sewed. **1s. 3d.** net. Postage 2*d.*

A collection of interesting stories suitable for class reading.

W. HEFFER & SONS, Ltd., Cambridge, England,

and from all Booksellers.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Royal Asiatic Society of Great Britain and Ireland

22 ALBEMARLE STREET, LONDON, W.

PATRON

HIS MOST EXCELLENT MAJESTY THE KING.

VICE-PATRON

THE SECRETARY OF STATE FOR INDIA.

HONORARY VICE-PRESIDENTS

1919 O. CODRINGTON, ESQ., M.D., F.S.A.
1919 REV. A. H. SAYCE, D.LITT., LL.D., D.D.

COUNCIL OF MANAGEMENT FOR 1919-20

PRESIDENT

1894 THE RIGHT HON. THE LORD REAY, K.T., G.C.S.I., LL.D.

DIRECTOR

1911 THE RIGHT HON. SIR H. MORTIMER DURAND, P.C., G.C.M.G., K.C.S.I., K.C.I.E.

VICE-PRESIDENTS

1915 M. LONGWORTH DAMES, ESQ., I.C.S. ret.
1918 SIR CHARLES J. LYALL, K.C.S.I., D.LITT., LL.D., PH.D.
1916 F. E. PARGITER, ESQ., M.A., I.C.S. ret.
1919 VINCENT A. SMITH, ESQ., C.I.E., M.A., I.C.S. ret.

HONORARY OFFICERS

1917 A. G. ELLIS, ESQ., M.A. (*Hon. Librarian*).
1918 J. KENNEDY, ESQ., I.C.S. ret. (*Hon. Treasurer*).
1917 SIR GEORGE GRIERSON, K.C.I.E. } *Hon. Joint*
1918 M. LONGWORTH DAMES, ESQ. } *Secretaries.*

ORDINARY MEMBERS OF COUNCIL

1917 J. D. ANDERSON, ESQ., M.A., LITT.D., I.C.S. ret.
1917 PROFESSOR L. D. BARNETT, LITT.D.
1918 R. GRANT BROWN, ESQ., I.C.S. ret.
1919 WILLIAM FOSTER, ESQ., C.I.E.
1916 DR. M. GASTER.
1917 L. C. HOPKINS, ESQ., I.S.O.
1919 SIR HENRY H. HOWORTH, K.C.I.E., D.C.L., F.R.S.
1918 F. LEGGE, ESQ., F.S.A.
1916 PROFESSOR A. A. MACDONELL, M.A., PH.D.
1915 PROFESSOR D. S. MARGOLIOUTH, M.A., F.B.A., D.LITT.
1919 H. BALLOU MORSE, ESQ., LL.D.
1919 E. S. M. PEROWNE, ESQ.
1917 LIEUT.-COLONEL D. C. PHILLOTT.
1919 W. H. RYLANDS, ESQ., F.S.A.
1919 R. CAMPBELL THOMPSON, ESQ.
1916 MAJOR W. PERCEVAL YETTS.

SECRETARY AND LIBRARIAN

1918 MISS ELEANOR HULL.

ASSISTANT SECRETARY

1917 MISS L. B. PHILLIPS.

ASSISTANT LIBRARIAN

1919 MISS LATIMER.

HON. SOLICITOR

ALEXANDER HAYMAN WILSON, ESQ.,
Westminster Chambers, 5 Victoria Street, S.W.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ROYAL ASIATIC SOCIETY'S JOURNAL

JANUARY, 1920

CONTENTS

ARTICLES

PAGE

To the East of Samatata. By Prof. PADMANATH BHATTACHARYA, VIDYAVINOD, M.A. 1

Man-istisu, in the Temple of Sara. By THEOPHILUS G. PINCHES 21

Babylonian Ritual and Sacrificial Offerings. By THEOPHILUS G. PINCHES 25

The Aryan Invasion of Northern India: an Essay in Ethnology and History. (*Concluded.*) By JAMES KENNEDY 31

The Hittite Language of Boghaz Keui. By the Rev. Prof. A. H. SAYCE 49

An Egypto-Karian Bilingual Stele in the Nicholson Museum of the University of Sydney. By A. ROWE. (With Plate.) 85

MISCELLANEOUS COMMUNICATIONS

Moses b. Samuel of Safed, a Jewish Katib in Damascus. By SAMUEL POZNANSKI 97

Kuru-Pañcāla. By F. E. PARGITER 99

Royal Asiatic Society 102

NOTICES OF BOOKS

ALICE WERNER. Introductory Sketch of the Bantu Languages. Reviewed by E. TORDAY 103

LOUIS I. NEWMAN and WILLIAM POPPER. Studies in Biblical Parallelism. By M. GASTER 104

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

SAMUEL COOLING. The New China Review. By L. C. HOPKINS 106
SAMUEL A. B. MERCER, Ph.D., D.D. A Sumero-Babylonian Signlist. By T. G. PINCHES . . 107
Sir JOHN MARSHALL, Kt., C.I.E. Guides to Taxila and Sāñchī. By M. LONGWORTH DAMES . . . 108
HAR BILAS SARDA. Maharana Sāngā, the Hindupat, the last great leader of the Rajput Race. By V. A. S. . 113
RAMESH CHANDRA MAJUMDAR, M.A. Corporate Life in Ancient India.—RADHAKUMUD MOOKERJI, M.A., Ph.D. Local Government in Ancient India. By F. E. P. . 114
PRIYANATH SEN, M.A., D.L. The General Principles of Hindu Jurisprudence. By F. E. P. . . . 118
Professor JADUNATH SARKAR. Shivājī and his Times. By VINCENT A. SMITH 118
Note on the History of El-Yemen. By A. S. TUTTON . 121

Report of the Joint Session of the Royal Asiatic Society, Société Asiatique, American Oriental Society, and Scuola Orientale, Reale Università di Roma, September 3-6, 1919 123

ADDITIONS TO THE LIBRARY 163

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

JOURNAL

OF THE

ROYAL ASIATIC SOCIETY

1920

PART I.—JANUARY

To the East of Samatata

(ON THE SIX COUNTRIES MENTIONED BUT NOT VISITED BY YUAN CHWANG)

BY PROFESSOR PADMANATH BHATTACHARYA, VIDYAVINOD, M.A.

THE famous Chinese traveller Yuan Chwang travelled throughout India during the second quarter of the seventh century A.D.; he proceeded eastwards as far as Samataṭa, and when he was turning back he mentioned six countries which he had heard of but could not visit. Their names are given in serial order: "(1) Shihli-Ch'atalo to the north-east (from Samataṭa) among the hills near the sea; (2) south-east from this, on a bay of the sea, Kamolangka; (3) Tolopoti to the east of the preceding; (4) east from Tolopoti was Ishangnapulo; (5) to the east of this was Mohachanp'o; and (6) to the south-east of this was the Yenmonachou country."[1]

Regarding the location and identification of these countries antiquarians, European and Asiatic, like M. Chavannes and Dr. Takakusu, have given their opinions, and the consensus of these learned views has led to the following identifications:—

(1) Shih-li-ch'a-to-lo was Prome in Lower Burma, the ancient Tharekhettara or Śrīkshetra; (2) Ka-mo-lang-ka

[1] Watters' *Yuan Chwang*, vol. ii, pp. 187-8. Watters' work has been followed in this article as he is the most reliable authority.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

was Pegu and the Delta of the Irawadi; (3) To-lo-po-ti is the same as Dwārāvati, "the Sanskrit name for Ayuthyā or Ayudhyā, the ancient capital of Siam"; (4) I-shang-na-pu-lo, i.e. Īshanapura, was Cambodia; (5) Mo-ha-chan-p'o or Mahāchampā was modern Cochin-China with a part of Anam; and (6) the Yen-mo-na-chou was Yamunādwīpa, which might be Java but has not been yet identified.[1]

The late Mr. Watters, who, according to Dr. Rhys Davids, was the most qualified person to write an authentic work on the interpretation of Yuan Chwang's valuable records,[2] objects to Shih-li-ch'a-ta-lo being identified with Prome or Tharekhettara, on the grounds that it was far from the sea and that it lay *south-east* of Samataṭa, instead of *north-east*, which is the reading of all the texts of the Life and of the Fang Chih.[3] Having thus criticized the view already established, Watters has given his own idea, viz. that Shih-li-ch'a-ta-lo or Śrīkshetra "should correspond roughly to the Tipparah District";[4] and this has been confirmed by Dr. Vincent A. Smith in his notes appended to Watters' volumes.[5]

Before proceeding to examine these opinions we must ascertain the position of Samataṭa. It is stated in the narrative that the Chinese traveller proceeded from Kāmarūpa southwards, and after a journey of 1,200 or 1,300 li (6 li = 1 mile) reached the country of Samataṭa, and that this country was on the seaside and was low and moist, and was more than 3,000 li in circuit.[6] Then, again, from Samataṭa the pilgrim journeyed west for over 900 li and reached Tanmolihti,[7] which was decidedly Tāmralipta, the modern Tamluk in the Midnapur District. Samataṭa, therefore, must have been the south-eastern

1. For details *vide* Watters' *Yuan Chwang*, vol. ii, pp. 188–9.
2. *Vide* Preface to Watters' *Yuan Chwang*, vol. i, p. v.
3. Watters' *Yuan Chwang*, vol. ii, pp. 188–9.
4. Ibid., p. 189.
5. Ibid., p. 340.
6. Ibid., p. 187.
7. Ibid., p. 189.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

part of the Bengal Presidency corresponding to the Dacca, Faridpur, Backerganj, Jessore, and Khulna Districts; and this is the locality shown as Samataṭa in the map appended to Watters' volumes by Dr. V. A. Smith.

Having thus fixed with fair certainty the location of Samataṭa, let us now examine the position and identification of the six countries one by one.

(1) The first is Shih-li-ch'a-to-lo. We learn three points about it, viz.: (1) it was north-east of Samataṭa; (2) it was among the hills; and (3) it was near the sea. Those who so long localized it about Prome in Lower Burma overlooked the first and the third points, and have thus been rightly criticized by Watters, as stated already. They had also missed another, a very important, fact: A.D. 95 was the date of the demise of the last king of Prome, and Tharekhettara and the kingdom fell immediately after.[1]

Was it possible that Yuan Chwang, coming about five centuries and a half after the extinction of the kingdom of Tharekhettara, would be informed of its existence? We may, therefore, say conclusively that Yuan Chwang did not mean Tharekhettara of Prome when he spoke of Shih-li-ch'a-to-lo.

Let us now come to what Watters has put forward as to Shih-li-ch'a-to-lo. Unfortunately he has not stated his arguments in favour of it: apparently he only looked at the map and found the Tipperah District fairly on the north-east, and so he made a surmise. Had he only looked a little up exactly north-east of what was Samataṭa, he would have found the right claimant in the district of Sylhet, which in the vernacular is called Śrīhaṭṭa. We have said elsewhere that "what the people whom Yuan Chwang consulted said was 'Śrīhaṭṭa', which

[1] Lieut.-General Sir Arthur P. Phayre's *History of Burma*, ed. 1884, p. 18.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the pilgrim heard as 'Śrīkshatra', and represented in his defective Chinese tongue as Shih-li-ch'a-to-lo".[1]

The peculiar way in which the Assamese pronounce the letter ह (*h*) even now (one hears it sounded like the Greek letter χ (*chi*)) indicates probably the manner in which in this part of East Bengal close to Assam the letter was pronounced in old days, and the Chinese pilgrim might not be wholly to blame for taking Śrīhaṭṭa as Śrīkshatra.[2]

We will now see if Sylhet (Śrīhaṭṭa) fulfils all the conditions. It was "north-east of Samataṭa" (South-Eastern Bengal); "it was among the hills": a reference to the map of Sylhet will show that it is surrounded by ranges of hills on all sides except the west. But a map of modern Sylhet would not show that it fulfilled the third condition, as the district is not at present "near the sea". This requires some explanation.

The district of Sylhet, which, by the way, included two centuries ago the eastern part of Mymensingh and the northern part of Tipperah, contains many marshes that go by the name Háor, which apparently is a corruption of the word Ságara, as it is changed into Sáyar in colloquial Bengali and the initial *S* is commonly changed into *h* in the Sylhet patois.[3] These "haors" are gradually being silted up, and are now being utilized in paddy cultivation; even villages are growing amidst them near river banks or at spots raised up by earthquakes. Only

[1] *Epigraphia Indica*, vol. xii, pt. ii, No. 13, p. 67. The point whether Śrīhaṭṭa (Sylhet) existed as a distinct kingdom in Yuan Chwang's time has been dealt with in that article as a side issue, and so has not been touched on here.

[2] A Pandit once said that he had come across Śrīkshetra written in a Tantra in place of Śrīhaṭṭa: if this be a fact all confusion is cleared up. [Śrīhaṭṭa means "Market of Śrī or Lakshmī", the deity presiding over the Pīṭha of Sylhet being Mahālakshmī; and Śrīkshetra means "field or place of Śrī (Lakshmi)"; so both these words are almost of the same signification.]

[3] *Vide* Dr. Grierson's *Linguistic Survey of India*, vol. v, pt. i, p. 224.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

140 years ago, in 1778, when a certain Mr. Lindsay went from Dacca to Sylhet as its governor, he wrote: "I shall not be disbelieved when I say that in pointing my boat towards Sylhet I had recourse to my compass, the same as at sea, and steered a straight course through a lake not less than one hundred miles in extent."[1] If this was the state of things less than a century and a half ago, what the condition of the district was about thirteen centuries ago may well be imagined. In fact, one of the two copper-plates discovered near Bhatera in South Sylhet about forty years ago, which, according to Rājendralāla Mitra, were executed in the fourteenth century A.D. (but which might belong to an anterior date though certainly not prior to the tenth century A.D.), contains in it the word सागर-पश्चिमे (*sāgara-paśchime*, "west of the sea") as the boundary of a plot of arable land.[2] In the other plate also there is the word नौवाटक (*nau-vāṭaka*), which Rājendralāla Mitra has translated as "war boats", mentioned in two places in connexion with the description of the royal donor's war materials.[3] This also indicates the existence of something like the sea near by even some centuries after the Chinese traveller visited India.[4]

Before concluding the case of Shih-li-ch'a-to-lo we have

[1] Extracts from *The Lives of Lindsays*. Appendix to Hunter's *Statistical Accounts of Assam*, vol. ii, p. 346.

[2] *Vide* line 38 of the Copper-plate Inscriptions No. 1, as published with the *Proceedings of the Asiatic Society of Bengal* for August, 1880.

[3] *Vide* lines 13 and 21 of the copper-plate Inscriptions No. 2 in the same Proceedings. That these copper-plate grants related to Sylhet (Śrīhaṭṭa) is evident from the fact that the donors were described as belonging to a dynasty which ruled the kingdom of Śrīhaṭṭa and that one of these grants related to Śrīhaṭṭanātha Śiva.

[4] That the whole of the plain portion of the district formed part of the ocean at a remote period will be apparent from the fact that the lofty mountains to the north and east rise abruptly; the conformation of some of the sandy hillocks on and about the town of Sylhet, and the presence of marine shells at the foot of the hills along the northern boundary, also prove this (*vide* Hunter's *Statistical Accounts of Assam*, vol. ii, p. 263, and Hamilton's *East India Gazetteer*, vol. ii, p. 352).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

to deal with a third claimant, as some people would identify it with Chittagong, the Sanskritized name whereof is Chaṭṭala, by prefixing the honorific syllable Śrī before the latter. There are serious objections to this theory: firstly, in that case south-east is required to be substituted for north-east (of Samataṭa), which is quite unwarranted, as already stated. Secondly, the name Chaṭṭala occurs in the Tantras which are quite modern works, and is apparently the Sanskritization of Chāṭigāon, which, according to Rai Śarat Chandra Dās Bahadur, C.I.E., the antiquarian, who was a resident of Chittagong, was the name by which the place was known in the Buddhistic world even in the ninth century A.D.[1]; and thirdly, even if the name Chaṭṭala was known in Yuan Chwang's time, there does not seem to be any reason why the Chinese traveller should take the pains of prefixing Śrī to it, which, by the way, is not found even in the Tantras. Shihlich'atalo therefore is Śrīhaṭṭa (Sylhet) and no other place.[2]

[1] *Vide* p. 6 of a vernacular work, *Chaṭṭagrāmer Vivaraṇī*, issued in instalments from Chittagong

[2] Itsing, who came to visit India about thirty years after Yuan Chwang, said, apparently referring to this place: "Going east from the Nalanda Monastery, 500 *yojanas*, all the country is called the Eastern Frontier. At the (eastern) extremity there is the so-called 'Great Black Mountain', which is, I think, on the southern boundary of Tu-fan (Tibet). This mountain is said to be on the south-west of Shu-chuan (Su-chuan) from which one can reach this mountain after a journey of a month or so. Southward from this, and close to the sea coast, there is a country called 'Srīkshatra (Prome)'" (p. 9, Dr. Takakusu's *Itsing*; words within parenthesis are those of Dr. Takakusu). Whatever the learned editor (Dr. Takakusu) might say (and such views have already been criticized) this 'Srikshatra' was 'Śrīhaṭṭa' or 'Sylhet'; the 'Great Black mountains' must have been the Bhotan range that skirts Tibet; and this Chinese pilgrim making his way through the Brahmaputra Valley and the Khasi hills reached Śrīhaṭṭa, that, as already stated in detail, had then a vast sheet of water near by that passed for a "sea". Itsing, who had, of course, studied Yuan Chwang's Itinerary, was probably eager to see Śrīhaṭṭa, which his predecessor could not visit, and benefiting by the latter's experience, he did not go via Samataṭa for fear of the "sea" which would intervene on that way, but took a rather circuitous route and so reached the place as stated above.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

2. Ka-mo-lang-ka, the next country in order, lay south-east of Shih-li-ch'a-to-lo on a "bay of the sea". It is regrettable that Watters, who protested against Shih-li-ch'a-to-lo being Prome, acquiesced in Kamolangka being Pegu and the Delta of the Irawadi, as decided by some anterior antiquarians. If, as Watters says, Shih-li-ch'a-to-lo be the Tipperah district, how could the next country, said to have been lying south-east thereof, apparently in close propinquity, be one far away from the former and separated by insurmountable mountain ranges? Nowhere in the history of Burma do we come across a name that sounds like Kamolangka. Moreover, the country that included the Delta of the Irawadi was known as Subarnabhumi[1] in ancient times, and the city of Pegu, built in the sixth century A.D., was given the classic name of Hansawadi.[2] Yuan Chwang, coming within half a century after the foundation of that city, would have mentioned the classical name if he really meant to refer thereto.

Where, then, was Kamolangka? It was where it should have been, viz. a territory south-east of Shih-li-ch'a-ṭo-lo (Śrīhaṭṭa or Sylhet), where still a faint recollection of it is left in the name of Comilla, the headquarters station of the Tipperah district. If we should consult a modern map we might find Tipperah more south-west than south-east of Sylhet; but, as I have already mentioned, Sylhet, even in the eighteenth century A.D., comprised the eastern part of Mymensingh and the northern part of Tipperah, and as it was mentioned as north-east of Samataṭa, in contiguity of course, who knows but that its western boundary was further westwards 1,300 years ago? At present the district of Tipperah is not on a bay of the "sea", but what has been stated of Sylhet, which is further inland than Tipperah, might with greater possibility be said of the

[1] Phayre's *History of Burma*, p. 19.
[2] Ibid., pp. 29-30.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

latter; the Brahmaputra has its old channel terminated at a point which was then on the north-western boundary of the old Tipperah, and possibly this was then the head of an estuary that looked like a bay. Only a few years ago, when on account of a sudden flood all cultivation in the plain portions of the district was destroyed, the vast sheet of water presented the appearance of a sea, and this was surely the ordinary condition 1,300 years before.[1]

Five miles from Comilla (already mentioned) there is a hill called Lālmāi but popularly known as Mayanāmatī Hill, called after the heroine of a story contained in the old manuscript books named Mayanāmatī's Gān (songs of Mayanāmatī); one of such books has recently been published by the Dacca Sāhitya Parishat, in which we find the following lines:—

বাপের মিরাশ এড়ি যাইমু গৌরর শহর।
দাদার মিরাশ (এড়ি) যাবেক কামলাক নগর ॥

Bāper mirāsh eḍi yāimu Gaurar Shahar
Dādār mirāsh(eṛi) yāvek Kāmalāk nagar.[2]

This Kāmalāk is apparently a corruption of Kamalānka, the whilom state that included Comilla.

Information about an extinct kingdom named Karmānta

[1] In what season Yuan Chwang came to Samataṭa and turned back from that place is not known. We can presume, however, that he must have been here during the rainy season, when casting his eye towards the north-east he could see nothing but a vast sheet of water that discouraged him proceeding further that way. This is quite possible, as the Buddhist monks observed the rainy season as a period of retreat (*vide* Watters' *Yuan Chwang*, vol. i, pp. 144-5). Yuan Chwang might have passed such a period in Samataṭa.

[2] p. 6, col. i of the Publication of the Dacca Sāhitya Parishat. The meaning of the lines is: "I shall go to the town of Gaura (= Gauḍa) after leaving my father's estate and to the town of Kāmalāk (leaving) the brother's estate." It should be noted here that both Watters and Beal have rendered Ḳamolangka as Kāmalankā, and the word Kāmalāk here seems to support this; but Kamalānka is the form that gives a better meaning, and in fact the one adopted by the Indian writers inclusive of those who would identify it with Pegu.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

is available from two copper-plate inscriptions, one of which was published by Dr. Rājendralāla Mitra in the Journal of the Asiatic Society of Bengal in 1885.[1] These plates were discovered at Áshrafpur, near Nārāyanganj, close to the south-western boundary of Tipperah. Twelve miles west of Comilla there is a village called Baṛkāmtā (Great Kāmtā), wherein ruins of buildings as well as of stone statues have been discovered; and on the pedestal of one of these statues (of Narteśwara) has been discovered an inscription containing the name of a king of Karmānta.[2] This Baṛkāmtā being still popularly known as the capital of an ancient kingdom, lying near Comilla, we cannot help inferring the identity of these two kingdoms, Kamalānka and Karmānta (Kāmta), which sound much alike, as do Uḍra and Utkala of Orissa. Kamalānka *alias* Karmānta must have existed in the seventh century as a kingdom deserving of notice by Yuan Chwang; the copper-plates inscriptions have been ascribed to eighth century A.D., and it is not too much to assume that the dynasty to which the donors belonged certainly had existed from an anterior date, at least a century earlier, as the copper-plate inscriptions contain the names of the royal donors' ancestors.

So 'Kamolangka' cannot be Pegu or any other place than the locality now known as Tipperah, as after the overthrow of the ancient kingdom a large portion of it was occupied by the kings of Hill Tipperah,[3] although it was afterwards conquered by the Muhammadans.

[1] Pp. 49–52 of the *Proceedings of the Asiatic Society of Bengal*. The other was published in the same journal in 1890–1.

[2] *A Forgotten Kingdom of Eastern Bengal*, by Mr. N. K. Bhaṭṭasāli, in the *Journal of the Asiatic Society of Bengal*, vol. x, No. 3, March, 1914, *vide* pp. 85–91.

[3] A part of it became annexed to the other neighbouring kingdôm of Samataṭa when the latter was under the Pāla dynasty, as will be inferred from an inscription containing the name of Mahipala I upon the pedestal of a statue of Vishnu, found at Bāghāüra in Tipperah (*vide* pl. x, facing p. 18, vol. xi, No. 1, 1915, of the *Journal of the Asiatic Society of Bengal*).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

3. To-lo-po-ti, the next country in order, lay east of Kamolangka. This has been interpreted to represent in Sanskrit Dwārāvatī, which was "the Sanskrit name for Ayuthyā or Ayudhyā, the ancient capital of Siam".[1] Here is another instance of anachronism that has been overlooked by the antiquarians who would locate everything in the Indo-Chinese Peninsula. "It is stated in the History of Siam that King Phra Ramathebodi founded the capital Ayuthia in A.D. 1350,"[2] i.e. more than 700 years after Yuan Chwang had visited India. There are other places in the Indo-Chinese Peninsula called Dwāravati, but they were not east of Pegu and the Delta of Irawadi, identified as Kamolangka as noticed before.

In fact, as Kamolangka was not Pegu, so Tolopoti was not Dwāravati, or at any rate in Siam[3] or any other place thereabouts. We have only to look east of the modern British district of Tipperah to find out what the Chinese pilgrim really meant by Tolopoti, viz. the State of Hill Tipperah. Probably Tolopoti is a contracted Chinese representation of Tripurāpati. Watters remarks, however, that "the characters seem to stand for Talapati, that is, Mahadeva[4] ($l = r$), and also that Talapati is the city with that name to which Shan Tsai went in order to consult Mahadeva its Patron God".[5] In that case the state of Hill Tipperah has the strongest claim for consideration; the name of Tipperah occurs in the enumeration of Pīṭhas (sacred places where limbs of Satī, the consort of Mahādeva, fell); the Śakti (female deity) here is called Tripurā, and the Bhairava (Mahādeva presiding over the same) as

[1] *Vide* Watters' *Yuan Chwang*, vol. ii, pp. 189.

[2] *Vide* Browning's *Siam*, vol. i, p. 43 (quoted in Phayre's *History of Burma*, p. 66, n.).

[3] Ancient name of Siam was Champa, *vide* p. 8, of Colonel L. W. Shakespear's *History of Upper Assam, Upper Burma, and N.E. Frontier*. Mr. Taw Sein Ko, of the Archæological Department, also considers Siam as Champa (vide *Northern Burma Gazetteer*, vol. i, pt. i, p. 205).

[4] Watters' *Yuan Chwang*, vol. ii, p. 189.

[5] Ibid.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Tripuresa, which may be paraphrased as Tripurāpati. The capital of the state has shifted from place to place with different names, almost once in each century, according to the variation of its boundaries; and it is quite probable that its capital 1,300 years ago might have been a city bearing the name of Tārāpati or even Dwārāvati.[1] That Mahādeva was in those days and even long before that time the "patron God" of the state can be easily inferred. The remains of a colossal statue of Mahādeva may be seen on a peak near Kailasahar, the headquarters of a subdivision of the state; and the statue, though very much damaged, is indicative of a very remote antiquity. It is also stated in the Rājamālā (genealogy of the Tipperah kings) that when at the death of Tripura the line became extinct, the queen became pregnant by the worship of the Lingam.[2] This Tripura, who is said to have given his name to the state, was, according to the Rājamālā, a contemporary of Yudhishṭhira, one of the chief heroes of the Mahābhārata.

That the state was a noteworthy one in Yuan Chwang's time will be evident from the fact that there is an era of the Tipperah state that dates from 590 A.D., about which[3] Sir W. W. Hunter writes in the statistical account of Hill Tipperah (p. 470): "The state of Hill Tipperah has a chronological era peculiar to itself. The Dewan reports that it was adopted by Raja Bīraraja, from whom the present Raja is ninety-second in descent. Raja Bīraraja is said

[1] The state of Tipperah had other names also: for instance, the Burmese called it Thuratun in their chronicle called Maharajaweng. We may here hazard a conjecture that it might have once had the name or surname of Sthalavatī (whereof Tolopati was the form in Yuan Chwang's writing) to distinguish it from Srīhaṭṭa and Kamalānka near by, which were aqueous regions, Sthalavatī meaning 'consisting only of Sthala (terra firma)'.

[2] शिवलिङ्गनता ध्यानात् सा बभूव सुगर्भिणी "Sivalinganatā dhyānāt sā babhūva Sugarbhinī" (Skt. Rājamalā).

[3] *Vide* also Sir Roper Lethbridge's *The Golden Book of India*, p. 541.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

to have extended his conquest across the Ganges, and in commemoration of that event to have established a new era dating from his victory." This was about half a century before Yuan Chwang took note of that kingdom as Tolopoti.[1]

(4) I-shang-na-pu-lo is mentioned next as lying east of Tolopoti. It has been long identified with Cambodia, Tolopoti having been looked upon as Siam. But the case of Siam has already been dealt with: it could not be Tolopoti, as it had the name of Champa. An antiquarian (Professor Chavannes) identifies I-shang-na-pu-lo with Cambodia on the ground that a little before Yuan Chwang's time a king named Īshāna ruled over Cambodia[2]; but the learned professor does not state if the said king founded any capital bearing his own name, as formerly a kingdom might also be named after its capital, but seldom by the personal name of its ruler.[3]

Let us now see if we can find any trace of Ishangnapulo in the direction indicated by us, i.e. on the east of Tripura (Hill Tipperah). But before doing so we must state here that in those days the state of Tipperah included the southern and eastern part of the district of

[1] In the Allahabad pillar inscriptions of Samudra Gupta (Fleet's *Corpus Inscriptionum Indicarum*, vol. iii, pp. 1–17) there occurs a word समतट डवाक कामरूप नेपालकत्तृपुरादि "Samataṭa Ḍavāka Kāmarūpa Nepālakattripurādi". In this document of fourth century A.D. an eminent Bengali writer on the history of Tipperah finds mention of the name of the state, as instead of Nepāla Karttripurādi (as is the reading generally accepted) he would read Nepalaka Tripuradi (तृ=त्रि). This is mentioned here for what it is worth.

[2] *Vide* footnote 4 to Notes on the Topographical Names (pp. li–lii of Dr. Takakusu's *Itsing* (Clarendon Press, 1896).

[3] General Sir A. P. Phayre says about Ishangnapulo as follows:—"Beyond that (Tolopati) state east Tshangnapulo (T = I ?) is not recognizable; but still further east Mohachampa mentioned by the pilgrim represents beyond doubt the ancient kingdom of Cambodia (see paper by James Fergusson in Journal of the Royal Asiatic Society, vol. vi, N.S., 1873)" (*History of Burma*, p. 32). So that Cambodia not only did not come to be considered by him as I-shang-na-pu-lo, but it was regarded as Mahāchampā beyond doubt!

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Sylhet and the western and southern part of Cāchār. By Ishangnapulo was therefore meant the present state of Manipur, including the eastern part of the Cāchār district, which lay to the east of the kingdom of Tolopoti (Hill Tipperah). The name Manipur occurs in the Mahābhārata, and the present-day rulers of Manipur believe that they are descendants from Babhruvāhana, son of Arjuna, whose exploits are delineated in the said Epic.[1] The indigenous history called Chaitaram Kumbābā contains accounts of the kings of Manipur from the remotest antiquity. Much of these is no doubt of a mythical nature, but they are not the only evidence of antiquity. Those who have visited the Bhuban Peak in the ridge of hills that form the present boundary between Cāchār and Manipur, and have seen therein the statues of deities like Mahādeva, Durgā, Gaṇeśa, etc., though they are all more or less mutilated, and also the caves that were apparently used as places for meditation, cannot but be impressed with the idea that this was a spot within a territory that had received the light of Hindu civilization at a very remote period of time.[2] In the state of Manipur itself there have been discovered statues of Mahādeva which are certainly indicative of remote antiquity.

On the eastern side of the boundary hills between Cāchār and Manipur, at the foot thereof stands Vishnupur, which was formerly the capital of Manipur, and which perhaps is what the Chinese pilgrim meant by Ishangnapulo. Vishnu is easily converted into Vishen; and in

[1] *Vide* Aśwamedheparvan, chap. 89 et seq.

[2] Careless people might connect this spot with the state of Hill Tipperah; but stone statues found in East Cachar show almost exact similarity in workmanship with those found in the Manipur Valley, and this goes a great way to support an assumption that Eastern Cachar and Manipur formed one state of old. Yet it should be stated that it is not quite improbable that this region might have been overrun by the Tipperah kings and even occupied by them for some time, as in the case of Kamalānka already noted.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

fact in some of the Government maps the place is spelt as Bishenpur (where *B* is the modern vernacular substitute for *V*). The initial letter (*V*), being a semi-vowel, might easily assume an inaudible form. So what was Vishnupur came to be pronounced and heard as Ishenpur, and noted by the Chinese pilgrim as Ishangnapulo.[1] The village of Vishnupur is located in such a manner as to command the view of the whole valley of Manipur, and as such it is a place fit for being the metropolis. There is something very remarkable about this place, for the people there who are called Vishnupuriya speak a language which is akin to the Aryan Bengali dialect, while the other Manipuris have a non-Aryan tongue.[2] The number of the Vishnupuriyas in Manipur is very small, while the bulk of the Manipuris settled in Cāchār and Sylhet style themselves Vishnupuriya. The Manipuris call the Vishnupuriyas Māyāng, which literally means "many people" (*mi-iām*), but now signifies "foreigner". The condition of Vishnupur[3] and its people, as well as of the statues of deities of the Bhuban Peak and also in the valley itself, bespeaks the existence of an Aryan kingdom that had existed in ancient times but has almost been swept away by the inroad of the Barbarians,

[1] If M. Chavannes' reason (as already stated) for the name Ishanapur being applied to Cambodia on account of the name of a ruler (Ishana) be accepted as valid, then this very name (Ishanapur) can more appropriately be predicated for this region also. Ishana (= Iśāna) means Mahādeva and also north-east. This locality, containing the statues of Mahādeva (as that at Bhuban Peak and others in the valley of Manipur), and lying north-east of a famous kingdom (of Samataṭa), might claim that nomenclature also; and by a phonetic process, the reverse of what has been stated above, Ishanpur might have been changed into Vishnupur in modern times.

[2] *Vide* Dr. Grierson's *Linguistic Survey of India*, vol. v, pt. i, p. 419.

[3] The present writer visited the place in October, 1916, and was told by the people there that the old Vishnupur was situated a little up the hill, and was buried underground by a huge landslip caused by earthquake.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

who, however, have become Hinduized and civilized by adopting the ways of the conquered people.[1]

The country of Ishangnapulo mentioned by Yuan Chwang, therefore, was the state of Manipur inclusive of the eastern part of Cāchar, the capital whereof was Vishnupur.

5. Mo-ha-chan-p'o, the next country in order, was east of Ishangnapulo. It has hitherto been identified with Cochin-China and part of Anam.[2] The Chinese pilgrim apparently wrote Mahāchampā, using Mahā (great) as a prefix to distinguish it from Champā in Bihar, which he had already visited.[3] Besides Cochin-China several countries in Further India claimed this name; the cases of Cambodia and Siam have already been mentioned, and we are going to bring in another claimant which lay close to the east of the country that we have endeavoured to identify with Ishangnapulo, viz. the country in Northern Burma, whereof the capital was Sampenago (= Champā-nagar), the ruins of which are even now seen near Bhamo, and which was probably the most ancient of all the countries in Further India that claim the name of Champa. Sampenago had an antiquity and a Buddhistic reputation utterly absent from countries like Cochin-China, Cambodia, or Siam, or, in fact, in any other place in the Indo-Chinese peninsula. It is said that Dharmāśoka of Magadha built a set of his pagodas, tanks, etc., as the Buddha had lived here in a former existence in the body of a crow.[4] This ancient kingdom existed up to the eleventh century A.D.

[1] A very old and popular story of Khāmbā-Thaibi, wherein the hero and the heroine are described as incarnations of Mahādeva and his consort (Durgā), shows that the worship of Śiva and Śakti was current in the valley—a fact indicative of its antiquity. The scene of the plot is laid at Mairang, a place close to the south of Vishnupur.

[2] Watters' *Yuan Chwang*, vol. ii, p. 189.

[3] *Vide* ibid., p. 181 et seq.

[4] *Vide* extracts of Mr. Ney Elias's "Introductory Sketch of the History of Shans", p. 56, pt. ii, vol. i of the *Gazetteer of Northern Burma and Shan States*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Sektumin was a very famous king of Sampenago at a very remote period of antiquity, and his successors continued to rule there up to 400 B.E. (= A.D. 1038).[1] This Sampenago was apparently the capital of a Shan State, as Bhamo is stated to have formed an integral part of the Shan kingdom of Pong. This statement is based on the researches of Captain Pemberton, who derived his information from Shan MSS. at Manipur.[2] That this Shan kingdom of Pong was imbued from ancient time with the Buddhistic culture is proved by the test of language: "The Shan language is described by Dr. Cushing as a monosyllabic language, but has many polysyllabic words of Burmese and Pali origin."[3]

Probably this region was colonized in ancient days by people from Champa, and we learn from General Phayre's *History of Burma*[4] that Kshatriya princes arrived in Burma through Manipur by a route which is still called Mauriya or Maurira, that reminds us of the Mauriya king Aśoka of Magadha, to which Champa then belonged.

Thus it was quite natural that in the enumeration of unvisited countries in succession the Chinese traveller looked this way, viz. towards Tipperah (Tolopoti), Manipur (Ishangnapulo), and the Shan State of Champanagara (Sampenago),[5] and not in any other direction.

[1] Ibid., p. 57. [2] Vide *Bhamo Gazetteer*, p. 13.

[3] Ibid., p. 28. The very word 'Shan' may be a monosyllable contraction of Sanpo or Champa. Mr. Ney Elias in his "Introductory Sketch of the History of Shans" mentions a term "Mau Shans" which he says "is a political rather than a racial name" (p. 190, pt. i, vol. i of *N.B. Gazetteer*). May not this Mau Shans be a reminiscence of Maha Champa? Mr. Scott, editor of the *N.B. Gazetteer*, sees the trace of Kauśāmbī in Ko-shan-pye or the nine Shan States (*vide* pp. 189-90, *N.B. Gazetteer*, pt. i, vol. i). Ko means Nine, and Shampye might represent Champa as well.

[4] p. 4 (*vide* quotation later on).

[5] It is interesting in this connexion to note that a prince of the Shan State of Pong chose this route (viz. Tipperah and Manipur) when returning home from a tour of conquest in 777; *vide* p. 58 of Browne's *Statistical Accounts of Manipur*, and p. 12 of Phayre's *History of Burma*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

6. Yen-mo-na-chou, the next and the last country mentioned, lay south-west of Mohachanp'o, and this has not been yet definitely identified, apparently because the antiquarians have hitherto been traversing a wrong region. If we look to the south-west of the locality that had Sampenago (modern Bhamo) in it, we find the province of Burma, which in those days was a powerful kingdom and probably included even Chittagong. Chou means an island, i.e. *dwīpa* in Sanskrit; and Yen-mo-na-chou, which is surmised as Yamunadwipa by Watters,[1] must have been Jambu-dwīpa[2] if it bore any meaning at all; and it appears from the translation of a letter from the Burmese Government to the Governor-General of India, dated October 21, 1879, that the king of Burma was spoken of as "the Burmese Sovereign of the Rising Sun who ruled over the country of Thuna Paranta and the country of Tambudeepa".[3] This Tambudeepa is apparently Jambudwipa, which meant all countries south of Ava.[4] From the way in which the countries of Further India were given Indian names, we should think it quite natural that the ancient sovereigns of Burma should call a portion of that country after the name of India itself, viz. Jambudwīpa, a name which was very common in Buddhistic literature.[5] The question arises whether or not the Burmese kingdom was a noteworthy one in the seventh century A.D., and in answer we might say that this was the era-making period of the Burmese, as the

[1] *Yuan Chwang*, vol. ii, p. 189. Dr. Takakusu's conjecture is Yavana-dwipa, meaning Sumatra (*vide* the geographical notes to his *Itsing*, pp. li–lii). This is not borne out by a reference to the map.

[2] The word Jambu could be represented by Yenfou in Chinese. So it appears from Watters' *Yuan Chwang*, vol. i, p. 33. In that case Yen-mo-na might also very nearly represent the same word Jambu in its corrupted form in Burmese.

[3] *Northern Burma Gazetteer*, vol. i, pt. i, ch. iii, p. 103.

[4] Ibid. [Thuna (=Suna) Paranta represented all the countries north of Ava.]

[5] *Vide* Watters' *Yuan Chwang*, vol. i, p. 132.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Burmese era was founded by King Pupasaw in the year 638 A.D.[1]

As already stated, the Burmese empire then extended probably up to Chittagong, so that by enumerating the country of Yen-mona-chou Yuan Chwang completed a circle. Starting from Shih - li - ch'a - to - lo, north-east of Samataṭa, he stopped with Yenmonachou lying south-east, and this was more probable and natural. It is also quite improbable that leaving aside Śrīhaṭṭa (Sylhet), Kamalānka, etc., which lay near at hand and in close contiguity with Samataṭa, the Chinese pilgrim should have troubled himself to take note of regions like Prome and Pegu that lay far off from Samataṭa, between which and those countries there lay the sea, the rivers, and the mountains.[2]

[1] *Vide* Appendix (p. 202), *A Chronology of Burma*, by Max and Bertha Ferrars. This chronology will also show the antiquity of Burma. Mr. Taw Sein Ko says in a letter to the present writer that the Burmese era was, according to the native chronicles, inaugurated by Thinga Raza, a king of Pagan, after wiping out 1,182 years of the Era of Religion (Anno Buddhæ) reckoned by the Burmese from B.C. 544. About this Pagan the same authority writes: "The native writers aver that Tampadipa (which is a more correct form of Tambudeepa mentioned above) is the name applied to Pagan, which is situated on the left bank of the River Irawady, and that Suna Paranta is applied to a place opposite to Pagan on the right bank of the same river, and they are inclined to ascribe their foundation to the time of the Buddha." Mr. Taw Sein Ko, it seems, has not much faith in his "native chroniclers"; but that is a matter of opinion. The fact remains (and this is what is required for our purposes) that this part of the Indo-Chinese Peninsula was noteworthy in Yuan Chwang's time, and a prominent part of it bore the name of Tambudeepa (which we have assumed to be a corruption of Jambudwipa), which Yuan Chwang noted as Yen-mona-chou.

[2] General Phayre, in his *History of Burma*, p. 4, says: "The route by which the Kshatriya princes arrived is indicated in the traditions as being through Manipur, which lies within the Basin of the Irawaddy. The northern part of the Kubo Valley, which is the direct route of Manipur towards Burma, is still called Maurya or Maurira, said to be the name of the tribe to which king Asoka belonged." This is another reason why the Chinese traveller's eye naturally turned that way, as indicated above.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

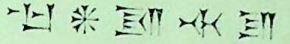
In conclusion, it may be stated that the region with which we have concerned ourselves here is as yet a virgin field for research, and if this our humble writing serves to invite the attention of the veteran antiquarians to work in this field we should think ourselves amply rewarded.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri



Man-istisu, in the Temple of Sara

By THEOPHILUS G. PINCHES

THOUGH of no great importance in itself, one of the tablets of the Harding Smith collection, numbered W.H.S. 122, is nevertheless worthy of notice, owing to the frequent mention made of a personage, to whom gifts were apparently made, named Man-ištisu. As this name only differs from that of the now well-known king of Kiš, Man-ištusu, by the substitution of *i* for *u* in the third syllable, the identity of the two spellings seems certain, and it is possible that they are forms of the name of one and the same ruler. His capital, Kiš, is now represented by the mounds of Oheimer, about 20 miles east of the ruins of Babylon. Peters describes the site as consisting of a reddish hill, with many elevations to the west and north.[1]

Unimportant as the city was in later days, it seems, during the pre-Akkadian period, to have attained an influence superior to that of Babylon. This, however, is not astonishing, as it came to the fore shortly after the time of the mythical king Ētanna, who, according to the legend, ascended to heaven on the back of an eagle to seek "the herb of bearing", so that his wife might bring forth a son to succeed him.

According to the archaic chronological list published by Poebel, Man-ištusu was the second in succession from Šarru-kênu (Sargon) of Agadé, and therefore ruled about 2700 years B.C. He is best known by the pointed obelisk of his reign now in the Louvre, and found by the de Morgan expedition at Susa; but there are other and smaller objects

[1] *Nippur*, by John Punnett Peters, i, 323.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

bearing his name, the most interesting being the torso dedicated on his behalf by U-sub to the god Narutu of Susa. (*Mémoires de la Délégation en Perse*, vol. x, p. 1.)

The name Man-ištusu, though Semitic, is a strange one, and has given much ground for speculation. J. Hoschander, in the *Zeitschr. für Assyr.*, vol. xx, p. 246, suggests that it is for *Man-išdud-su*, meaning "Who dragged him forth (from the womb)?" but this has a doubtful ring about it, and the change in vocalization in the Harding Smith tablet (it would require the unlikely Man-išdid-su) makes this interpretation all the more uncertain. That the reading is absolutely correct is shown by the variants *Ma-an-iš-du-uz-zu* and *Ma-an-iš-du-us-su*. The other forms, *Man-ištusu* and *Man-ištisu*, presuppose a root *šwd* or *šyd*, which, before assimilation with the pronominal *š* (*s*) brought about the change of the inserted *t* into *d*, in accordance with known phonetic rules. We may therefore regard the name as being for *Man-ištûd-su* or *Man-ištéd-su*, and meaning "Who raised him on high?" (gave him his exalted position?), or the like.

Notwithstanding the absence of the character *lugal*, in Semitic *šarru*, "king," and the determinative prefix for divinity, in the Harding Smith tablet, the fact that Man-ištisu appears as receiving gifts in the temple of Šara at Jokha suggests that he was in reality a deified Babylonian ruler. For him and for the great god of the temple there are twenty entries, as follows:—

Lines 1–4. 10 talents the gift (for) the temple of Šara, 2 talents Man-ištisu. Sur-lugal-. . .

5–7. 3 talents the temple of Šara, 1 talent Man-ištisu. Lugal-muru-ga.

8–10. 2 talents the temple of Šara, 1 talent Man-ištisu. Lu-Nin-m[ug](?).

11–13. 1 talent the temple of Šara, ½ talent Man-ištisu. Sur-laḫa(?).

14–16. 1 talent the temple of Šara, ½ talent Man-ištisu. Sur-abba.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Rev. 1–3. 1 talent the temple of Šara, ½ talent Man-ištisu. Lula.

4–6. 1 talent the temple of Šara ½ talent Man-ištisu. Sur-gigir.

7–9. 1 talent the temple of Šara, ½ talent Man-ištisu. Sur-. . .

10–12. 1 talent the temple of Šara, ½ talent Man-ištisu. Lugal-bataê.

13–15. 2 talents the temple of Šara, 1 talent Man-ištisu. Lugal-itida.

16 = edge 1. 1 talent the temple of Šara, ½ talent Man-ištisu. Dug-Šara.

Edge 2–3. Total: 32 ½ talents, gifts carried away (or received).

A few lightly impressed wedges fill the blank space on the edge after this, the first group making up, apparently, the character , *iti*, "month." This is followed by a cluster of wedges suggesting the archaic form of the Assyrian (see Scheil's *Signes Archaïques*, No. 177), glossed in *W. Asia Ins.*, ii, pl. 32, 66, and translated *marû*, "fat" (applied, apparently, to sheep). The gloss may be read either *ni-ga* or *dig-ga*. The third wedge-cluster begins under the sign for "month", and resembles the archaic form of , *šeg*, generally translated "brick" or "brickwork". Whether this be a real month-name or not is doubtful—it is more likely to indicate that the scribe was giving examples to a companion of characters having *gunu*-wedges in the form of the character .

Other lightly impressed wedges appear on the edge between the obverse and the reverse (practically a continuation of the left-hand edge). They seem to be intended for the archaic Babylonian forms of , *mal*, and , *ra*. What connexion, if any, they may have with the others is doubtful.

The total of the talents (? of grain, possibly barley) presented to the temple of Šara and to Man-ištisu is given on the edge as 32 ½, but the whole of the items amounts to 31 only,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

a total which implies that the scribe reckoned an additional item to each—1 talent to the temple, and half a talent to Man-ištisu. Such a mistake when adding up the entries without making a list apart or checking their number in some way is very easily made.

Naturally, it is the temple which has the lion's share, namely, 22 talents, whilst the deified king (if this assumption be correct) has only 9. The deified Man-ištisu probably entered the heavens as the servant and minister of the god of Jokha.

It remains only to be added that Jokha is the name of the ruin-mound representing the city called, by Assyriologists, Umma. When I revised the syllabary used for this reading, however, I could not recognize the character 𒌋𒁹, *um*, but the traces seemed to me to be those of 𒌋𒄩𒌋, *sir*, which would supply the name of Sirma. A duplicate-text would alone settle this question.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Babylonian Ritual and Sacrificial Offerings

By THEOPHILUS G. PINCHES

AMONG the more interesting tablets of the Berens collection of Babylonian tablets[1] is one of more than usual interest, in that it gives directions as to the offerings to be made to the principal deities of the land. As the text is published in the *Asiatic Society Monographs*, No. XVI, I give here merely the transcription and translation :—

1. Išten immeru išten luṭ garanu
2. ḫišiḫti zērî ina pa-ni ga-rak-ki tarakkas
3. an-nu-u u-mu maḫru-u tarakkas
4. u-mu ma-la dul-lu epuš
5. maḫ-ḫu-ru-tu maḫ-ḫa-ru mi-iḫ-ḫa tanakki
6. U-mu išten qanû taḫḫu ina bît a-nu ukân
7. tišit luṭ pursite suluppi kêmu šasqū tir-ri tarakkas
8. mi-iḫ-ḫa tanakki ina li-la-a-ti qanû taḫḫu
9. [ina] bît a-nu ukân šitta luṭ pursite
10. ša suluppi kêmu šasqū
11. tarakkas mi-iḫ-ḫa tanakki

Reverse

12. . . immere . . . . . .
13. . . ḫišiḫti zērî . . . . . .
14. gu-ru-un ina pan . . . . . .
15. an-nu-u rik-si a-na $^{d.}$ . . . . . .
16. tarakkas išten immeru išten luṭ garanu
17. ḫišiḫti zēri a-na $^{d.}$Be-lit îlāni tarakkas
18. Šalšet immerē šalšet luṭ garane
19. šalšet ḫišiḫti zēri a-na $^{d.}$E-a $^{d.}$Šamaš
20. u $^{d.}$Maruduk ina tarbaṣi tarakkas
21. Ki pi u-il-ti^{m} gab-ri Nippur ^{ki} šu-bal-kut
22. Le'i $^{m.d.}$ Nabûnadina-šumi âbil $^{m.}$Zēr-u-ti-ia

[1] See *Asiatic Society Monographs*, xvi, pp. 147-9.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Translation

1. 1 sheep, 1 libation-cup (of wine).
2. (and) a portion of grain thou shalt allot before the divine emblem (?).
3. This thou shalt allot on the first day.
4. Every day thou doest the service, (and)
5. the celebrants offer, thou shalt pour out a libation.
6. By day thou shalt set one *taḫḫu*-reed, in the house of the (holy) vessel.
7. Thou shalt allot 9 vasas of dates (and) *šasqū*-meal,
8. thou shalt pour out a libation. In the night *t*[*aḫḫu*]-reed
9. [in] the house of the (holy) vessel thou shalt set, 2 vases
10. of dates (and) *šasqū*-meal
11. thou shalt allot, thou shalt pour out a libation.

Reverse

12. [3 ?] sheep, [3 libation-cups (of wine),]
13. [3 ?] portions of gra[in shalt thou allot before . . .]
14. wine (?) before . . . [shalt thou allot (?).]
15. This (is) the allotment for the deity . . . . . .
16. thou shalt allot, 1 sheep, 1 libation-cup (of wine),
17. A portion of grain thou shalt allot for the Lady of the gods.
18. 3 sheep, 3 libation-cups (of wine),
19. 3 portions of grain for Ê̂a, Šamaš,
20. (and) Merodach thou shalt allot in the court (of the temple).
21. According to the document, the copy (of which) was obtained from Nippur.
22. Wood tablet of Nabû-nadina-šumi, son of Zērûtia.

Though short, this is one of the completest tablets of its class, and is of special interest in that it gives words which apparently do not occur in the dictionaries, or are very rare.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Judging from the wording, the text seems to have begun with the less important gods, and ended with the great divinities—in any case, the "Lady of the Gods", Ė̂a, Šamaš, and Merodach, belong to the latter class, and the *garakku*, mentioned in line 2, is probably nothing more than a "divine emblem", as in the rendering suggested. The question naturally arises whether *garakku* may not be for *karakku*, the name of a bird, possibly, as has been suggested, a crow; but in this case we should expect the proper determinative suffix. A bird, as a divine emblem, however, is by no means impossible. Among "the signs of the gods" found on the boundary-stones birds are often represented, as also on the cylinder-seals. One of these is thought to be a sparrow, another resembles a bantam, and a third suggests some breed of chicken, or, maybe, a fighting-cock. The emblem of the sun-god Šamaš appears as a disc mounted on a kind of plinth (compare Berens Collection, No. 111). The staff surmounted by a ram's head and the goat-fish Capricorn are described on one of the boundary-stones as emblems of the god Ė̂a, the lord of the Deep and the wisdom associated therewith. The emblem of Merodach is regarded as having been a spear-head and part of the shaft, which is often seen both on the boundary-stones and the cylinder-seals. It is the *mulmullu* of *Western Asia Ins.*, v, pl. xlvi, 1, 25, where it is described as "the weapon of Merodach's hand"—that which he used to destroy Tiawath, the Dragon-creatress of the first or confusion-age of the world's formation.

That the character 𒄷, *as*, in lines 2 and 13, is not the *qa*-fraction *ṣibat*, 3 times 6 (= 18), *qa*, is indicated by the fact that, in line 19, it is followed by the plural sign. Its meaning in these passages is therefore, in all probability, "thing required," *ḫišiḫti*, and this has been adopted here.

As the ending *utu* is generally the masculine plural in the case of offices and professions, an office is probably to be understood in line 5, where it is attached to *maḫḫuru*, from *maḫāru*, "to receive," "take." *Maḫḫaru*, the word following, is from

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the same root, and is probably the plural permansive of the *Pa'al*, generally found, however, in the passive form, *muḫḫuru*.

The GI-TAḪ-reed, lines 6 and 8, I have transcribed as *qanû taḫḫu* owing to comparison with the [illegible], *taḫḫu*, of my *Outline of Assyrian Grammar*, No. 1, p. 62, lines 1 and 4; No. 2. lines 1 and 2. There is uncertainty in this comparison, however, owing to the absence of the determinative prefix *qanû* and the possibility that the character *ḫu* may be the determinative suffix for "bird". *Taḫḫu*, however, seems to be more likely in all three texts.

Noteworthy is the word [illegible], lines 7 and 11, which we are told to pronounce *eš-a* in Sumerian and *šasqū* in Semitic. The meaning of the group is "water luxuriant grain-plant", and that of the Sumerian compound word "plentifulness water". This naturally points to a plant growing in a well-watered ground, such as was to be found in Babylonia, and having thick interlacing foliage. Is this, by chance, the rice-plant? Sir W. Willcocks, in his *Garden of Eden* (Cairo, 1918, par. 79), speaking of the value of rice in turning large areas of swamp into valuable fields, states that no one can tell when rice first appeared in the (Babylonian) Delta, but that it is the most valuable crop in the country to-day after the date-crop.

Naturally, when first introduced, rice may have been neglected through prejudice; or, owing to difficulty in cooking or milling, it may have failed to win favour. In that case, its extensive cultivation would be delayed because its value was not realized. Its introduction, however, may have taken place more than 2000 years B.C., at which date the *a-tir* or *eš-a*, Semitic *šasqū*, is found. I transcribe in line 7 *šasqu tirri*, but do not know how it ought to be rendered. *Tirru* would in this case be a Semitic borrowing from the Sumerian.

It is not improbable that, at the late period when this tablet was written, *atir* (*ater*), may have been read for *šasqū*,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

and *terri* may have been the pronunciation of the word which follows in line 7.

The *pursite*-vases (from the Sumerian *bur-zid*) were probably broad and deep receptacles for carrying provisions. They were of the class called *ḫaṣbu* (*šita* in Sumerian). As broken vases of this form were to be found in the streets (*Cuneiform Texts*, xvi, 21, 170), they were doubtless in very general use.

Such texts as this naturally have their difficulties, and it is not even suggested that those presented in the above inscription have been successfully overcome in the new translation given here. All that can be said is that fresh material has been utilized, and further consideration given to several doubtful but exceedingly interesting words.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

यह पुस्तक वितरित न की जाय
NOT TO BE ISSUED

The Aryan Invasion of Northern India: an Essay in Ethnology and History

By JAMES KENNEDY

(*Continued from JRAS. 1919, p. 529.*)

III

WE have seen how the Panjab and the Valley of the Middle Ganges were organized before the sixth century B.C. We have still to answer the question, wherein did this organization consist? It consisted in three things: it established a differentiation in physical type; it created caste; and it brought about a novel intellectual and religious outlook upon life. Of the physical types we need say nothing more; and the intellectual and religious evolution was in part a concomitant, in part a consequence of the social evolution. Our primary concern, therefore, is to inquire into the origin and development of caste, and as caste was the creation of the Aryo-Dravidians of the middle land, Madhyadēśa, it is among them that we must seek its origin.

The problem is this. Both Āryas and Dravidians were at the outset divided into tribes; all society was tribal. Now tribe and caste are mutually opposed. Caste implies the dissolution of the tribe; moreover, it is a thing unique in the history of the world, and must therefore have arisen under peculiar circumstances. A tribe subsists by virtue of its ancestral traditions; it has its eponymous ancestors, its wars, its great men, and its tribal cults; its members are all kinsmen, whether the kinship be by adoption or by blood. A caste has no traditions, no history; it may have an ancestor whom some obliging Brahman has invented, but he receives no special honour, nor does caste necessarily imply an original community of blood. It sometimes happens that a whole tribe is received into the Hindu fold and becomes

यह पुस्तक वितरित न की जाय
NOT TO BE ISSUED

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

a separate caste, but in this case it loses its individuality and its tribal character. It is no longer an independent unit; its ideas and its laws are novel; and for the quasi-divinity of the chief it substitutes the divinity of the Brahman. Caste is founded on a theocracy, and the basis of that theocracy is the Brahman. The question, therefore, is how came Āryas and Dravidians to change their tribal constitution into a Brahman theocracy.

Before we enter on this question, so vexed and so obscure, it may be well to draw attention to certain features of caste as it has existed in the past and as it exists to-day. Perhaps its most obvious feature is its combination of extreme rigidity with extreme flexibility. Being part of a theocracy, its laws are in theory divine, and being divine they are in theory immutable, in practice they are within certain limits extremely flexible.

Its flexibility and growing rigidity are best illustrated in the matter of marriage. At the present day no man may marry out of his caste. But this is a comparatively modern innovation. The laws of Manu provide a whole code of rules regarding mixed marriages. The marriage of a man of a higher caste with a woman of a caste below him was always permissible; but the children could not belong to the caste of either parent, they formed a caste of their own. In the course of generations and by the practice of the rules of purity this hybrid caste might attain to the rank of their fathers, but such promotion was probably rare. Mixed marriages prevailed not only throughout antiquity but throughout the Middle Ages; some of the most famous Rajput heroes had base-born mothers, and mixed marriages still prevail in Nepal and some of the Himalayan states. Mixed marriages have been very general, and not the exception, in the long history of caste.

The Brahman lawgivers may have felt that it was hopeless to impose greater restrictions upon the continence of the men. It was otherwise with women. The marriage of a

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

well-born woman with an inferior was always reprehensible in the highest degree. The children were beyond the pale, and the higher the rank the greater the degradation.

Caste is founded on descent, and the laws of marriage are of the first importance for its study. But in other matters caste retains its old flexibility. Just as totemistic tribes change their totem when they find it inconvenient, so caste is thoroughly opportunist. If a practice runs contrary to convenience it is abandoned and forgotten; presently it will be said that it never existed. The former practice is declared to have been due to some misunderstanding, and the new rule is the true one. In this way caste assumes very various shapes in various localities. It is one thing in the Panjab, another in the United Provinces, and a totally different thing in Southern India.

But despite all this flexibility and movement caste has certain characteristics which are constant and universal, and these characteristics are the characteristics of a primitive society. Exclusiveness born of pride is a marked feature of all such societies, and exclusiveness is of the basis of caste. Caste is always, in Sir A. Lyall's words, fissiparous; it multiplies by scission. A second mark of its primitive origin is the suppression of the individual. The community may alter its rules and its ways as it pleases, but the individual who ventures to transgress is *ipso facto* a rebel and an outcaste.

Caste thus combines what is primitive and what is modern. It is a primitive social framework adapted to modern needs. Another peculiarity requires equal notice. Although caste is founded on theocracy, there is, the Brahman excepted, no hierarchy. The castes are many and their subdivisions ever changing and numberless, yet they all fall into two grand classes, the pure and the impure. Above all is the Brahman. His position is unassailable, and none but heretics, and occasionally recalcitrant Rājputs and Jāts, would question it. But in the lower world it is the conformity with the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Brahman ideas which confers rank; by this the Brahman judges, and his decision is final. Thus one section of a caste may live in an atmosphere of high respectability in one place, while in another locality it enjoys no good name. On the other hand a profound gulf separates the pure from the impure. The impure castes have many divisions of social rank among themselves; they adopt illustrious names, imitate their betters, and copy their marriage ceremonies, and they have stringent laws of conduct which they observe more faithfully than their betters. There is much emulation, and each group aspires to be more respectable than its neighbour. Even the lowest are exclusive and take a pride in their caste. But the Brahman barely tolerates their existence, nor does he condescend to be their minister. Until English rule and European modes of thought created a revolution, there was no way for the low-caste man to escape from the accident of his birth. His disgrace was indelible, and it was only in a future life that he could hope to attain a higher status.

The division of society into the pure and the impure corresponds with the political conditions which have always prevailed in India. Politically there are only two divisions, the aristocracy and the serfs. The former held all the land and possessed all the wealth of the country. All occupations were open to them provided they were not degrading. The law-books, it is true, suggest certain occupations as most suitable for certain castes, but this is merely a counsel of perfection. The higher the caste the more numerous the occupations open to it. Thus Brahmans fought in Indian armies, were kings, took service, held land and cultivated it, although a particular tabu forbad the upper classes to guide the plough. Agriculture and war were occupations in which all the upper classes could take part.

On the other hand the impure classes were identical with the serfs. They could only cultivate the land for their masters. They might not hold it themselves. If they tried to escape they were captured and brought back. They could practise

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

no honourable profession, and whatever was mean and ignoble fell to their lot.

And now let us turn to the question of origins, and try to understand how caste arose. We have no guidance except that of Manu, and the laws of Manu without explanation are unintelligible. Every such explanation is of necessity conjectural, for the details are lost. But there are certain clues, and by following these we may arrive at a conclusion which appears natural and probable.

Caste had not taken shape when the Ṛig Veda was compiled, but there was a premonition of it in the air. By the time of the Buddha it was fully developed, and Megasthenes describes it precisely as a modern observer would do. It is in the period immediately following on the compilation of the Ṛig Veda that we must look for the origins of caste.

I start with three assumptions. First, caste was no artificial creation, but the result of a natural evolution, and imitation was then, as it is now, the chief factor in its development and spread. Second, caste originated at the top, not at the bottom of society, an assumption which is justified by its history. Third, it first arose in the country of the Kuru-Pañchālas, and was due to the social conditions which prevailed there. The Ṛig Veda contains the first signs of the coming change, and the Ṛig Veda is a product of the Kuru-Pañchāla Brahmans. Many of the hymns are of their composition, and it was they who made the collection. The laws of Manu are the first to lay down the laws of caste, and the laws of the Mānavas were the laws of the Kuru-Pañchālas. Lastly, Brahmāvarta was peculiarly the Brahman land, and the Brahmans are at the basis of the system.

It is not difficult to form a picture of life among these Kuru-Pañchālas. We have a number of fair-skinned Aryan tribes scattered through different localities and intermixed with a dark-skinned Dravidian population, which they hold in subjection. Āryas and Dravidians are alike tribal and alike exogamous. The unit of the Aryan tribe being the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

family, marriage is permissible with all except the nearest of kin.[1] The Āryas intermarry with each other, and they also take to themselves dark-skinned women of the subject-race, so that the same word *dāsī* denotes a native woman, a concubine, and a slave. As such unions became common the repugnance to them grows less, so that after some centuries the intermixture of blood is general, although greater doubtless in one locality than in another. The type of the Aryo-Dravidian has come into existence.

These Aryans, once hostile but now friendly, become consolidated in a single community under a single king. Tribal bonds are forgotten or dissolved; the tribal chiefs disappear, and with the pressure of population a pastoral community becomes an agricultural one. Meantime a specialization of function takes place among the Āryas themselves; the sacerdotal Brahman and the professional warrior, the Rājanya or Kshatriya, form distinct classes in contradistinction to the common freeman. In all this there is nothing of caste. It is a stage of society which has many parallels in Persia, in Egypt, and among the barbarians who invaded the Roman Empire.

At the same time the distinction between the lordly Āryas and the Dravidian śūdras remained in full force, despite all interbreeding. The Aryan freeman was not as other men. The smallest drop of Aryan blood gave him the right to lord it over the helot Dravidian. So did the degenerate Alexandrians of Polybius' day boast of their descent from the mighty men of Hellas. The Ṛig Veda has conducted us so far.

[1] Macdonell & Keith, *Vedic Index*, i, 236. "In the Ṛig Veda we find no prohibition of marriage between relatives. On the contrary, it would seem rather, as e.g. from Śatapatha Brāhmaṇa, 1. 8. 3, 6, that marriages between members of the same family were of common occurrence in the ancient period. The union of men and women descended from the same ancestor and of blood relations in the third and fourth degrees is represented as being a general practice."—Fick, *Encyclopædia of Religion and Ethics*, vol. vi, s.v. Gotra.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

At this point caste arises. It is a reaction against this progressive confusion of bloods, an appeal to Aryan pride, and a protest against a state of things which threatened to merge Aryans and Dravidians in one indistinguishable mass. The earliest term for caste is *varṇa*, colour, a term long in use. Colour implies purity of descent, it bases itself on heredity, and its primary law is the ostracism of promiscuous exogamy. It were vain, perhaps, to apply this law of continence too strictly, a certain latitude was necessary; but at the same time one might regulate such unions by recommending cohabitation with the purer instead of with the coarser groups. Such sentiments could only have arisen among those sections of the Āryas which had kept themselves most free from contamination. It must therefore have arisen among the highest class, and the most conservative of that class were the Brahmans. Many of the Brahmans are still among the fairest of the Aryo-Dravidians. The Brahmans were the only Āryas whose occupation was hereditary while the Āryas were still tribal.[1] They formed an esoteric community; their knowledge was an inherited treasure, and they had their own ideals. When, therefore, the *élite* of the Āryas drew together, refusing to be merged in the general degeneracy of the race, they insisted on a certain standard of civilization and of ceremonial purity. Things and acts which violated this standard were forbidden.

In this way communities were formed which prided themselves on the regulation of exogamy and the preservation of heredity, and they insensibly became the cynosure of the Aryo-Dravidian world. As the Brahman communities multiplied and drew aloof from the rest, others who best preserved the traditions of the race, and were probably the purest in blood, would imitate their example, until the force of imitation gradually infected the whole body calling itself Aryan. All such the Brahman deigned to recognize. They

[1] The warrior caste may have become hereditary before the Ṛig Veda was closed.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

were the twice-born, Āryas first by birth, and then by initiation and adoption entitled to share in the virtue of the Brahmanic sacrifice.

But although the current set this way, it was inadvisable in a community so mixed to inquire too closely into individual claims. If a man called himself a Brahman, and was generally regarded as such, it was impertinent to inquire further.[1] In this way many individuals and classes, including Śūdras, were able to assume a status which in strict justice did not belong to them. Hence there came about great differences within the limits of a single caste. On the other hand, individual Āryas had sunk into the Dravidian herd. While the Āryas were still nomadic the artisan was held in honour; the chariot-builder more particularly was a person of importance. But when Aryan and Dravidian artisans lived and worked side by side the outer world made no distinction between them. Handicrafts were an ignoble occupation. Another source of degradation was war; Āryas captured and enslaved each other.

Of the original Aryan constitution only two things now remained—the Aryan joint family and Aryan pride coupled with Aryan exclusiveness. These were the birthright of the pure. The Dravidians also possessed a tribal constitution, but when they were reduced to the condition of helots this had been suppressed, and all that remained of it was the village, the unit of the tribe. These helots were naturally the last to enter into the fold of caste. But here, too, the aspiration for respectability and the desire to imitate their betters ultimately prevailed. In this case there could be no discrimination of blood, occupation was the only test. Different occupations involved different acts and different kinds of matter; and some occupations are more degrading than others. The superior artisans and mechanics withdrew from the baser servants of the village, and in this way among the helots occupation became the basis of a new classification

[1] *Vedic Index*, ii, 259.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of caste. But although all those who followed the same occupation might be included under one general caste-name, the new communities remained very small. The village had been the former unit; it still remained the unit in the matter of marriage, nor did marriages extend beyond the former circle, although there was no bar thereto. Moreover, the village council reappeared in the caste *Panchayat*, which regulated every detail of the caste-fellows' lives with a minuteness unknown to their betters. Thus among the twice-born caste is founded on purity of descent and the consequent regulation of marriage; and infractions of caste rules are judged, in the rare cases where they are openly discussed, by agnates and by neighbours. For the impure, the helots, caste is determined by occupation, and life is minutely regulated by a standing *Panchayat*, a *Panchayat* which has some of the characteristics of a trade guild, but is more probably a direct descendant of the old village council.

If the history I have sketched is necessarily conjectural in many of its details, it has the merit of being in substantial agreement with the explanation of caste given by the Laws of Manu. Manu has retained from an older state of things the threefold division of the Āryas into the sacerdotal and knightly orders and the body of freemen commoners, as well as their separation from the Śūdras. For Manu the Brahmans, the Kshatriyas, the Vaiśyas, and the Śūdras are the four primary castes, although this classification of society was antecedent to caste, and this fourfold subdivision of the Āryas was founded upon function, not on colour, *varṇa*. But he has another theory of caste which he develops at length; he assigns it to mixed marriages. Here we meet with real castes and are on safe ground. Nor can there be any reasonable doubt that Manu is right; mixed marriages and the confusion thereby of the four primary orders are the basis of the whole system. Occupation is also touched upon, but it is only in the case of some of the lowest Śūdras that Manu says a man's caste is known by his occupation. For

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the Brahmans, Kshatriyas, and Vaiśyas he lays down partly counsels of perfection, partly rules which forbid the lower orders of the twice-born to encroach upon the duties peculiar to those above them. Thus it is the duty of all the twice-born to learn the Vedas, but only a Brahman may teach them. His attribution of occupations is merely what he considers most befitting to each rank in the fourfold classification of society; in practice he allows the utmost freedom of choice.[1]

The second half of our problem still awaits us. Caste is part of a theocracy, a theocracy which was as novel as caste itself. If we ask wherein this theocracy consists, we shall find that it is founded on the Brahman, and the Brahman is divine. "A Brahman," says Manu,[2] "be he ignorant or learned, is a great divinity."

A late myth of the Ṛig Veda ascribes a divine origin to the fourfold classification of Aryo-Dravidian society. When the gods sacrificed *Purusha* the Brahman sprang from his mouth, the Rājanya from his arms, the Vaiśya from his thighs, and the Śūdra from his feet. But the divinity of the Brahman is quite a different thing. It is peculiar to himself. Because he is divine, the laws of caste are divine; he lays them down, he sanctions, and he interprets them. The rest of the community has no divinity of its own; it is dependent on the Brahman. The evolution of the Brahman must have been antecedent to caste; and thus we are faced with a problem more obscure than the origin of caste itself.

Originally most, if not all, of the Aryan tribes had their families of Brahmans, medicine-men and priests, distinguished only by their functions from their fellow-tribesmen. As their

[1] On caste and its origin *v.* Macdonell & Keith, *Vedic Index*, ii, 247 ff.; Risley, *The People of India*, pp. 257 ff. (2nd ed.); Gait in Hastings' *Dictionary of Philosophy and Ethics*, vol. iii, s.v. Caste; W. Crooke, *Tribes and Castes of the North-West Provinces and Oudh*, vol. i. Regarding the *gotras*, which play such a considerable part in the marriage laws of the Brahmans, and the curious parallelism between them and the totemistic rules of the wild tribes, *v.* Fick, *Encyclopædia of Religion and Ethics*, vol. vi, s.v. Gotra.

[2] *The Laws of Manu*, ix, 317.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

knowledge was their special endowment, it was confined to certain families, which handed it on as their heirloom. The *Purōhita*, who directed the royal sacrifices, was doubtless a man of great importance, an importance which would be reflected on his family and relations; and the Brahmans as a class were respected for their knowledge. But there was nothing to foretell their future greatness.

A much more probable explanation of the rise of the Brahman may be found in the development of the sacrifice. Originally every Ārya could sacrifice for himself; the ritual was simple, and the offerings were not costly. As the ritual increased in complexity, it fell more and more into the hands of the professional priests. With this growth in its complexity there came a growing belief in its efficacy. Throughout the whole of the Ṛig Veda period the sacrifice grows in importance.

After this time it assumes monstrous proportions. Special sacrifices are instituted for every object man can desire, whether the object be good or evil, whether to benefit oneself or to injure an enemy. The ritual is immensely elaborated; the officiants are multiplied. The sacrifice is believed to determine the whole order of events; there are no limits to its efficacy; by sacrifice the world was created, and by sacrifices the gods themselves had attained to their divinity.

In this way the simple nature-worship of the Āryas developed among the Aryo-Dravidians into a magical system, the greatest and most elaborate the world has seen. The means had become of more importance than the end. By magic men harnessed the gods to their will, and this magic was the property of the Brahman. As the possessor of these secret charms his position was exalted. The stages are obvious. We have the efficacy of the sacrifice, the sanctity of the sacrificial fire, the magical formula which consecrates the fire, the divine virtue, the *mana*, dwelling in the Brahman who possesses the formula; and, last stage of all, comes the *guru*, the earthly divinity who is the intermediary with the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

gods and the gatekeeper of Heaven. Thus every faithful Hindu possesses a god upon earth who is his guide for the here and the hereafter. The force of apotheosis can no farther go.[1]

In other countries, also, priests have often been accredited with supernatural powers, and it was through their priestly office that the Brahmans came to be divine. The divinity of the priest was extended to the whole of his community, for every member had, or might have, this knowledge. But how did these Brahmans, who belonged to different tribes, come to be merged in a single body ? With the disappearance of tribal differences among the Kuru-Pañchālas the Brahmans would naturally coalesce for professional reasons, if for no other. The compilation of the hymns of the Ṛig Veda proves that, for the Ṛig Veda combines the *carmina*, which were the peculiar property of at least seven distinct families. But another agency, an agency of first-rate importance, was also at work. Two things went to the making of a Brahman. His function was hereditary, therefore he must have purity of descent. But his virtue depended on his knowledge, his knowledge primarily of the magical formulæ and chants. To learn these he went from one teacher to another, for it was the duty of the Brahmans to impart their knowledge. In this way Brahmanic schools came into existence, each claiming some superiority over its neighbour, and these schools or universities became the nuclei of the new organization, they were the most powerful of agents in the development of the world of Brahmans. The Brahmans had never been a tribe, but when

[1] "A feature emphasized by Dr. Oldenberg is the atmosphere of magic in which from the Vedic period religion moves. The priests are entirely magicians. The idea of Brahman grew up on the basis of a world-concept of the all permeated with powers localized here and there, or moving about freely, and producing their effects by magic."—Thomas, JRAS. 1918, p. 321 ; cf. R. Chanda, *The Indo-Aryan Race*, pp. 14-15.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the germ of caste took root they became the first and greatest of the castes.

The relation of the Brahman to the rest of the community was twofold. The nobles, the Rājanyas and their fighting-men, were professional warriors; they formed a class apart, and their interests and ideals were no longer those of their fellow-tribesmen. Nor were they by any means inclined to yield the palm to the Brahmans, among whom they found numerous adherents, and they bore lightly the bonds of caste. In the early times the Brahmans had been dependent on the bounty of the chiefs; they had competed eagerly for the lucrative post of the *purōhita*, and although these chiefs were now subordinate or had disappeared, the fact was remembered. On the other hand, the Brahmans were subordinates no longer, they possessed lands and villages; if they claimed precedence of the Rājanya they took care to exalt the authority of the Kuru king.[1] The rivalry between the Brahmans and the Rājanyas could only end in the downfall of one or the other, and it was the Rājanyas who fell. The political power of the Kuru-Pañchālas came to a violent and disastrous end, but how we cannot say for certain.

The Epic and Puranic histories of the great war give one version of their overthrow; and I see no good reason to doubt the essential truth of their story. It was a war of the

[1] Fick has some excellent remarks on the relations of the Brahmans with the nobles, and the rivalry between the various Brahman families for the highest offices. "The deep-seated antagonism between the Vasiṣṭha and Viśvāmitra septs . . . was in reality an expression of the struggle for supremacy between the nobility and the priesthood." "The struggle for the influential and lucrative office of *purōhita*, the all-powerful adviser of the monarch and the ruler of the national fortunes, seems to have intensified the mutual antagonism of the *gotras*; while the Vasiṣṭhas, by their knowledge of the *stomabhāga* maxims, seemed to the Bharatas the most eligible candidates for the office, other *gotras* also made the same claim on the ground of their distinctive scholarship. To each *gotra* pertained a particular deity and a particular Veda. It is obvious that the followers of the Atharva Veda, the magic songs of which are in very many cases designed to meet the needs of kings, had the best chances in the competition for the office of *purōhita*." —*Encyclopædia of Religion and Ethics*, vol. vi, s.v. Gotra.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

more Dravidianized but more vigorous Āryas of the Southern Doāb, the country where the Dravidians were strongest, against their purer-blooded brethren in the north. These sturdy semi-Dravidians of the lower stream pushing gradually northwards must necessarily have come at some time or other into collision with the Kurus; and in the end they overthrew them. For emigrant Āryas the Kuru-Pañchāla country was the ancient Aryan home; they looked to it with veneration; and its downfall must have created a sensation far and wide.[1] The warrior aristocracy were certainly defeated and destroyed by some external force, and the Brahmans were left in undisputed possession. In this way the country of the Kuru-Pañchālas became pre-eminently a Brahman land.

On the other hand, the Brahmans came into daily contact with the common folk, the Vaiśyas. The Ārya, while he was yet a nomad, was his own priest; as the king sacrificed for the tribe, so he sacrificed for his family. He never lost this privilege entirely, but life in an agricultural village was a more complex business. At this point the Brahman intervened; his presence and his blessing became necessary in the transactions of family life, at birth, at initiation, at

[1] Mr. Pargiter's admirable summaries of the Epic and Puranic traditions enable us to judge somewhat of their merits. The most notable thing about them is their utter oblivion of the pastoral stage, the memories of which linger in the laws of Manu. The Dravidians were naturally ignorant of it, and the Aryan adventurers who had become their chiefs were warriors, not herdsmen. I therefore take these traditions to be the traditions of the Southern Doāb. Thus interpreted they yield a fairly credible story. In Buddhist times Kosambhī, near the junction of the Ganges and the Jumna, was the most important state in the Doāb. It may have been preceded by another nearer the junction of the rivers, a state in which the Dravidians were strong and the hybrid Āryas were chiefs. This state would find the easiest outlet for expansion in the open Doāb north of it; and this is what the legends tell us. I may also note that these semi-Aryan chiefs did remember that they had originally come from the north, i.e. from the Kuru-Pañchāla country. But of course Brahman invention and fabrication have enveloped the whole in so dense an atmosphere that it is impossible to feel assurance about any details.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

marriages and funerals. The sacerdotal element gradually enveloped everything, until the Brahman became the law-giver and the director of the common life. In the end the result was wholly beneficial. The Brahmans had laid down certain rules and ideals for the regulation of their own communities. These they applied with some modifications to the classes which submitted to their guidance; the ideal which they prescribed was priestly, but it was also elevating. Life became somewhat formalist, but at the same time it was "grave and lovable",[1] rather wanting in the more masculine virtues, but abounding in tenderness, sweetness, and kindness. This regulation of primitive society was wholly to the good, and it impressed itself so deeply that the ideals of three thousand years ago are the Indian ideals of the present day.

The immense growth of belief in the power of magic, born of the union of Āryas, who believed in magic, with Dravidians, who believed in it still more, was the fertile source not only of the colossal growth of the sacerdotal system, but of asceticism also. The acquisition of supernatural powers was the object of the ascetic; by separating himself from other men, by self-hypnotism and trance and ascetic practices, might he not hope to attain to something greater than humanity itself? Nay, it was not only by sacrifice that the gods had risen to their divinity, but by ascetic practices also. The greater the self-tortures the more certain the reward. Under the influence of such thoughts ascetics began to haunt the forests, intent upon discovering the secret potencies of the supernatural world; so that at the last it became a counsel of perfection for the perfect Brahman to abandon house and home and the occupations of the civil life and join himself to the forest-dwellers. Thus the sacrificial system and the ascetic life sprang from the same root and developed on parallel lines. And as out of the first the Brahmans had emerged with a novel social polity and a new ideal of conduct,

[1] Barth, *The Religions of India*, p. 53.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

so out of the forest-haunting ascetic there was developed the philosopher of the Upanishads. The rule of perfection remained in force, the perfect Brahman retired from the world to seek for hidden knowledge. But the knowledge which he sought was no longer the knowledge of magical arts and supernatural powers; he was in search of the divinity, and the discovery he made was his identity with the Absolute. The divinity he sought for dwelt within him. Hence that wondrous philosophy, half philosophy, half poetry, which has enthralled the intellect of India, and captured solitary thinkers in the crowded cities of the West. According to it the sage beholds in the universe the mirage of the Infinite; the incessant play of natural forces, the stream of circumstance, the myriad varieties of life, the fears and wants and aspirations of men, life and death, being and becoming and dissolution, all are but the phosphorescence of the unchanging mind; and the sage, elevated above the bounds of hope and fear, or passion or desire, finds in the silence of his soul reunion with Changeless Being, the ultimate and only true Reality, the Absolute.

The Sannyāsin is the professor of this knowledge, and his is the final stage in the Brahmanic ideal. The philosopher far outclasses the priest, although the priest was the father of the order. The Sannyāsin's philosophy is purely intellectual, because he is dealing with an individual who has renounced all social ties. Certain ethical obligations are incumbent on him, but these do not affect his speculations, nor are they the *raison d'être* of his philosophy. The permission to become a superman was confined at the outset to the Brahman, it then extended to all the twice-born, until at last it reached the Śūdra. In this way Hinduism adapts itself to every class and every individual. Civil life is a theocracy; it is based on inequality, and it is ruled by aristocratic exclusiveness and the division of classes; primitive instincts are at its core. But do you desire to lead a religious and not a civil life? Hinduism recognizes the natural equality of all men. It is

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

true that this equality is purely intellectual, but the entrance to a religious life is denied to none.

In some such way as that I have attempted to sketch the Hindu world had its origin. Born and developed in complete isolation and without a parallel elsewhere, it has survived these three thousand years and boasts of an antiquity rivalled only by the Jews and the Chinese. It arose from the imperfect fusion of two primitive peoples, and it was entirely an Aryan–Dravidian creation. Of the old Aryan ideals only the joint family and the worship of the ancestors remained. The Brahmans of the Gangetic Valley instituted a theocracy and caste, and caste has been ever since the foundation of the Hindu polity. They created philosophy, and this philosophy is the religion and the refuge of the soul. They set up a standard of the moral life, of mildness, gentleness, and temperance, of reverence and religious observance, and these have become the ideals of the Hindu character. Above all things they cultivated knowledge, for knowledge was their hereditary treasure and by knowledge they had risen. Although this knowledge was largely magical at the outset, it took a nobler flight; the study of the Vedas led to the cultivation of purity of speech, of grammar, and philology; the development of philosophic thought aided the progress of language and of literature. The Brahmans preserved the memory of the old Aryan religion, and they regulated the growing influx of Dravidian religious practices and beliefs. One thing, indeed, they signally failed to do, and prevented others from doing: they created no political society or any feeling of race or nationality. Caste never goes beyond the circle of its own members, it has no regard for outsiders, and where caste is predominant patriotism is unknown. In so far it perpetuated the anarchy out of which it grew. The drawback is serious, but notwithstanding this the merit of these Gangetic Brahmans is great. If Egypt is the gift of the Nile, Hinduism is the creation of the Brahman.

The Indo-Aryans of the Panjab never came completely

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

under the Brahmanic influence. With comparative purity of blood they retained their tribal constitution and their ancestral spirit. They deteriorated from their ancestral ways only in the matter of religion. For the old and simple nature-worship of the Āryas they substituted Śiva and Kṛishṇa and the snake-gods—gods borrowed in part from the hillmen and the aborigines. Otherwise, throughout the whole of this period they remained unchanged. A new epoch began with the annexation of the Panjab by Darius Hystaspes. During the next thousand years North-Western India attracted a succession of invaders, and from the fusion of the Indo-Aryan with these foreign elements a novel power arose which profoundly modified the course of events not only in Hindustan but throughout Central Asia. It is the Scythic period of Indian history, and in it the Indo-Aryan plays a part, but a very different part, from that which the Aryo-Dravidian had done.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Hittite Language of Boghaz Keui

By the Rev. Professor A. H. Sayce

After a delay of many years certain of the cuneiform texts discovered by the German excavating expedition to Boghaz Keui in 1907 have been published during the War (30 *wissenschaftliche Veröffentlichung der Deutschen Orient-Gesellschaft: Keilschrifttexte aus Boghazköi*, parts i and ii—the third part has not yet reached foreign scholars; Hinrichs, Leipzig, 1916). It has therefore become possible to attack the problem of decipherment with a fair show of success, and also to estimate the value of such attempts at it as have already been made. Just before the War Professor Delitzsch published a number of lexical fragments, in which the Hittite words are given with their Assyrian and Sumerian equivalents, and it is from these that every scientific attempt at decipherment must start. The cuneiform originals which were transliterated by Professor Delitzsch are to be found in part i of the *Keilschrifttexte*.

Meanwhile Professor Hrozný, the Viennese Assyriologist, who had received advanced copies of the texts, has been at work upon their decipherment. In 1917 he published an elaborate grammar of them (*Die Sprache der Hethiter*, Hinrichs, Leipzig, in the *Boghazköi Studien* edited by Otto Weber), and in 1919 he has followed this up by translations of the more important inscriptions (*Hethitische Keilschrifttexte aus Boghazköi in Umschrift, mit Uebersetzung und Kommentar*, part i; Hinrichs, Leipzig). In his translation and grammar Hrozný has shown great acumen and a genius for discerning the general signification of a passage even where his philological analysis of it must be corrected; his most important discovery, however, is that of the pronominal forms which he has succeeded in detecting and explaining.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Unfortunately he started with a theory which his first volume was intended to support—that the Hittite language was Indo-European, or worse still, "Indo-Germanic." It is the old story of Corssen or Savelsberg over again, with their endeavours to turn Etruscan and Lycian into Indo-European languages. It would seem that the historical texts in his second volume, which are the most helpful for the purposes of decipherment, were not altogether at his disposal when the first volume was written, and there are signs that he is now no longer so sure as he was of the purely Indo-European character of Hittite. "Caucasian" influences are admitted, and the indubitably Indo-European element in the Boghaz Keui texts is referred to a "Kharrian" and not a Hittite source.

In the case of an unknown language the first requisite of scientific decipherment is the absence of philological theory. When we have satisfactorily deciphered the language we can compare it with other languages and determine its philological connexions, but the decipherment must come first. And Indo-European languages are easy to recognize—at all events for the comparative philologist; as soon as the Persian transcripts of the Persian cuneiform inscriptions were deciphered there was no dispute about their Iranian character.

As far back as 1907, in my article on the "Cuneiform Tablet from Yuzgat", I had already sketched the outlines of the nominal declension and verbal conjugation in Hittite and identified the chief personal and demonstrative pronouns. But my materials were scanty, consisting only of the mutilated "Yuzgat" tablet and the two Arzawan letters, and my sketch of the grammar can now be enlarged and corrected. It is, however, upon the grammatical forms already indicated by me that Professor Hrozný's Indo-European theory is mainly built. Has the larger mass of material which he has interpreted made it necessary to revise my conclusion that Hittite was a mixed language, and that the coincidences

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

between Hittite and Indo-European grammar prove nothing more than geographical contact and mutual influence?

He tells us that such is the case. New facts, discovered by himself, which are as "solid as a rock", prove convincingly the Indo-European character of the language. First among these are the existence of the word *wâdar* "water" with its genitive *wedenas*, participles in *-nt*, *kuis* "who" and *kuid* "what", *ug* "ego", and *ammug* ἔμοι-γε, *zig* "thou" by the side of *tug*, *iya-mi* "I make", *iya-si* "thou makest", *iya-(n)zi* "he makes", *iya-weni* "we make", *iya-teni* "ye make", *iya-(n)zi* "they make".

There is no such word, however, as *wâdar*. It is written *wa-a-tar* and is formed with the same suffix *-tar* which, as the vocabularies show, denoted abstracts, and had certainly nothing to do with the -δωρ of ὕδωρ, where the *d* belongs to the root. Nor can it be identified with the Indo-European τωρ, τηρ, which did not denote abstracts. There is another word *watar* found in *wa-tar-na-akh-kha-an-za*, which the vocabularies translate *mâeru* "leader"; this may possibly be related to *uttar* which Hrozný has shown to mean "word", so that *watar-nakhkhanza* would be literally "word-issuer".[1] Hrozný is also possibly right in thinking that *u-i-da-a-ar* in the Yuzgat tablet is another form of the same word. If so, the variation in spelling indicates that it is a borrowed foreign word. That *wa-a-tar* really does signify "water" is made clear by a passage in a ritual text. As for *uetenas*, *uetenit*, I agree with Hrozný in believing that in a passage cited by him *uetenit* is intended to be a translation of the Assyrian *me-e* "waters", and that the first syllable was pronounced like the English "wet"; but in this case ὕδωρ must be given up, since the ὕδωρ and *watan* stems belong to two different divisions of the Indo-European family. It is possible, however, that *uetenit*, etc., have nothing to do with "water",

[1] *Na-uwar* is "to send", *na-khkh-uwar* "to cause to send". The connexion of *watar* with *ut-tar*, however, is very doubtful, since the root of *ut-tar* is *ut* or *ud*, which is really of Indo-European origin (Skr. *vad*, Gk. ὑδέω). *Watar*, consequently, may be an adverb.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

since a word *uetin* is used in the ritual texts, which is doubtfully translated "old" by Hrozný, who is haunted by recollections of the Latin *vetus*. The latter word really means "income" or "endowment".[1]

Wâtar is accompanied by two verbs which are also regarded as supports for the Indo-European theory. We find the phrase: *nu* NINDA-*an eizza-tteni wâtar-ma eku-tteni*, "so food you eat and water you drink." (NINDA is not merely "bread" as Hrozný translates, but "food" generally; it includes offerings of flesh as well as meal-offerings, see, e.g. K.B. ii, 1, *Obv.* i, 41.) *Eizza* is, of course, assumed to represent the Indo-European stem *ed-* "to eat", which is hardly possible;[2] while in *eku-* the Latin *aqua* is discovered. Unfortunately the root of *aqua* has not produced a verb signifying "to drink" in any known Indo-European language. Moreover Professor Hrozný finds both *eizza* and *eku-* disporting themselves under a Harlequinesque variety of forms; according to him *eizza-* also appears as *azzik-* and *ada-*, and *eku-* as *aku-* and *akku(s)-*. This alone makes us suspicious of his theories. But in the case of both *azzik-* and *akku(s)-* it can be shown that they rest on an erroneous translation. We read in an unpublished text: *nu kissan memai* SE-KHAL *kitta nebisas* AN UD-*us azziki tas attas* AN-MES *azzikandu* TE-IM AN-MES *azzikkandu*, "So say as follows: O Sun-god (of heaven?),[3] towards the grain utter incantations! May thy divine fathers utter incantations, may the gods utter

[1] It is possible that *tagâs*, also written *dagâs*, is the Hittite word for "water", since in one of the texts published by Boissier (*Babyloniaca*, iv, 4) we read: *eku-zi dagân kuit* (?)-*gan ûl lakhû*[*wai*] *pakhkhas-ta nukuanzi iyan* GIS *khukhupal*-MES *seir apâsa takhui nu* AN. *Manma-gan dagân-ma kuis-ki arkha lakhuwâi*, "he drinks, but the water (?) he does not pour out; with fire he consumes (?) what has been done in regard to the . . . , and he . . . to the god. Next the water (?) also some one must pour away." In the following paragraph the *khukhupalli* (which are made of wood) are ordered to be "filled with wine". According to Hrozný, *dagan-zipas* is found as the equivalent of KI, "the earth." But is it only *zipas* of which KI is the equivalent?

[2] Hittite *z* is older than *d*, not conversely.

[3] I take this signification from Hrozný.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the incantatory word!" In the line immediately preceding we have: *nu* GU-A-GIG GU-SAG *zikkanzi*, "so he incantates the . . . and heart," where *zik* must be the *zik* "word" or "speech" frequently met with in the texts and erroneously identified with the second personal pronoun by Professor Hrozný. The Professor, however, has himself shown that this pronoun was *tug*, and even Hittite is not likely to have used two such variant forms as *tug* and *zig* in the same text and in the same grammatical sense. *Zig* or *zik*, in fact, is employed with the 3rd pers. of the verb, as well as in such sentences as *zigga lie istamasti*, "and the command thou didst not obey."

Besides *azzikkandu* we read in an unpublished text: *kuisgan* AN-MI *kî* ⊢ AN SIN KI-LIB-BE *iyat nu apâs* AN-MI KAK-*zis-kiddu akkus-kiddu*, "whenever the Moon-god makes the omen[1] of an eclipse on a festival, then let them charm the eclipse and interpret (the omen)." In a corresponding passage *khingan* takes the place of the ideograph ⊢, which is also written ⟨ ⊢.[2] It will be noticed that in KAK-*zis-kiddu zik* has become *zis* for *zikis*, while KAK "make" is the equivalent of the initial *az*. It would seem, therefore, that the Hittite scribe saw in *az-zik* a compound, the first element of which signified "to make" and the second "words". As for *akkus-kiddu* the passages in which the compound verb occurs suggest that it signified "to interpret (the will of the gods)". Hence in YUZGAT, *Obv.* 17–19 we read: *Khakkhimas attissi annissi teizzi . . . kî azzi-kkitani akkus-kittani . . . kabbuwa addin*, "Khakhkhimas says to his father (and) his mother: In accordance with the incantation and divination I have given the [whole] number

[1] KI-LIB-BE = Sumerian *garas* "omen". But the ideographs may have their more common signification of "camp" (Sum. *karas*), since "to make a camp" is astrologically used of the moon.

[2] In Hrozný, H.K.B., p. 114, *khingan* occurs in connexion with *pankus*, which the Vocabularies explain by *alkakâtum* "courses" of priests. *Akkanzi* follows in the next line. *Khinganiya-war* is translated *meluttu* "jubilee" in the Vocabularies.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

[of them]." From the root of the verb *akkuwar* we have *akkandus*, which Professor Hrozný would translate "the manes of the dead", but which literally signifies "diviners".[1] *Akkandus* is an example of what Hrozný calls a "participle in *-nt*", *-nt* and *-nd* constantly interchanging in the form in question. But the form cannot be separated from the nouns in *-a(n)da*, also written *-(a)nta*, which occur so frequently as local names, more especially of mountains. Thus we find the mountain *Arinnanda* by the side of the city *Arinna*, or the city-name *Buranda* by the side of *Burus*. It is obvious that there can be no question of a "participle" here. Nouns denoting parts of the body further assumed the suffix; thus by the side of *khala-nta* "head" given in the Vocabularies we have *khalas-mis* "my head" in the YUZGAT tablet, and in an unpublished text *ziyanda-z* (NINDA-GIS-RA-*ya zi-ya-an-da-z*) interchanges with *ina pani* "in the face of".[2] *-(A)nda* also formed adverbs, though here it perhaps represented the nominal suffix *-ta* with nasalization, which is used in an instrumental sense (e.g. *nas-ta*, *kuttani-t*).

An instructive example of the true character of the suffix is offered by the name of a god, which in the same inscription and within fourteen lines one of the other is written *Innaraowantes* and *Innaraowandas*. *Innaras* is the name of a man, and a man's name is not capable of generating a "participle", even when he develops into a god. Both *-te* and *-da* or *-ta* are found without the preceding nasalization (e.g. *ziggates*),

[1] I have assumed in the above that Professor Hrozný is right in translating *eku* "to drink". But there are serious difficulties in the way. In an unpublished text *ekuzzi* interchanges with *akuwanzi*, which would, therefore, have the same meaning. But neither *eku* nor *aku* is given in the Vocabularies as the words signifying "to drink". These are *selûwar* and *isparri-ya-uwar*, the latter of which is construed with *dagân*, on which see above, in an unpublished text—*nu* (GIS) *la-akh-khar-nu-uz-zi da-ga-a-an is-pa-ra-an-zi*, "he drinks the water through a spout (?)." *Lakhkharnu* is a compound of *lakhkhu* "to pour out", and *arnu* as in *kutassan arnuwar*, which, according to the Vocabularies, signified "to put a question".

[2] The simple *ziyan* "face" is found in the inscriptions.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

and my own belief is that they are really suffixed verbs like the *ki* in *azzi-ki, akkus-kittani.* However this may be, the only adjectives I can discover approaching participles in sense terminate in *-nna* and *-tta,* as, for instance, *asannas* "seated", and *khandattas* "standing", applied to statues of *sedi* or guardian spirits (K.B. ii, 38, 9, 10). In the verbal form in *-is,* like *pais* "giving", I have hitherto seen a present participle; Professor Hrozny regards it as the 3rd pers. of a tense. I now think we are both right and both wrong; *pais* is neither a present participle nor a 3rd pers. in the Indo-European sense, but corresponds with an English "is giving" or, to a certain extent, with an ablative absolute in Latin. Its use is like that of the verbal form in *-li* in Vannic.

Kuis "who" and *kuid* "what" are temptingly like the Latin *quis* and *quid,* and when we further find *kuis-ki* and *kuid-ki* "whoever", "whatever", we are inclined to say that their Indo-European origin can admit of no question. But (1) the newly discovered bilingual Lydian inscription shows that in Lydian also *kudkid* and *kitkid* meant "whatever", and (2) the employment of *kuis* and *kuid* or the accusative *kuin* in the texts is absolutely irreconcilable either with Indo-European syntax or with regarding them as pronouns in an Indo-European sense. They precede instead of following the words to which they refer, they head a sentence to which there is no antecedent, and they are employed as adverbs of place and time. Thus *kuin,* which is generally used with an accusative singular, appears in H.B.K. p. 188, as both singular and plural: *nu-za* AN *Samsi kuin* NAM-RA *ina bit sarri uwatenun,* "thereupon to the Sun-god which spoil into the palace I brought"; ALU *Khatta-as-ma-za* EN-MES ZAB-MES ANSU-KUR-RA-MES *-ya kuin* NAM-RA-MES *uwateit,* "then of the city of Khattu the infantry and cavalry officers which spoils brought." Or, again, *nu-za* KHAR-SAG *Askharpaian kuis* ALU *Gasgas esan kharta nu sa* MAT ALU *Palá* KHARRAN-MES *karassan*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

kharta means "the city of Kaskas which had taken Mount Askharpaias as a station blocked the roads of Palu"; while *namma kuis-a* SARR-*us kisari nu* AKHU-*as* SAL-KU-*as idâlusanakh-zi* (literally, "then who and a king shall be") is "then if there shall be a king who shall injure brothers (and) sisters". What could an Indo-European scholar make of such sentences as: *nu* SARRU MAT ALU *Kargamis kuit Dudkhaliyas Khalpakhiss-a makhar* AN *Samsi ûl eser*, "so the king of Karchemish what Dudkhaliyas and Khalpakhis did not appear before the Sun-god"; *kuis kuit arkuwar iyazi* AN *Samsi istamas-mi*, "who what petitioning he makes I the Sun-god heard"; SAL-MES *kuit* GIR-MES-*as kittan khalier*, "the women what embraced the feet"? The only way in which such pronominal forms can be understood is to fall back on the explanation I gave of them in my paper on the YUZGAT tablet. They were originally forms of the verb *ku* "to be", and never altogether lost their original signification. Hence, in the sentences quoted above, *kuit* is literally "it is that", i.e. "namely"; "who makes it-is-petitioning"; "the women it was". That my explanation was correct is now shown by our finding the future of the verb—*kueri* "it will be"—in the published texts.[1] As a matter of fact, instead of supporting the Indo-European hypothesis, the syntactical use of *kuis*, *kuit* is for the scientific linguist the strongest argument against it.

As for the suffixed *ki*, it has nothing to do with the Latin *quid*, but is borrowed from Assyrian, as is proved not only by its length—it is written *ki-i* and *ki-e*—but also by its use in all the senses of the Assyrian *ki* "as", "when", "that", "like", "according to", "thus". A common phrase in the Annals, for instance, is *nu ina* MU I KAM *kî iyanun*, "so in one year thus have I done," corresponding with the similar phrase in the Vannic inscriptions: *istinê inanili arniusinili*

[1] So in Hrozný, H.K.B., p. 212, l. 81: *mânna-wa-mu zakhkhiya uwasi nuwatta ûl kuwat-qa ammel* A-SAG *kueri*, "and if you come to battle with me no portion of my land shall be yours."

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

MU *zadubi*, "thus have I made this spoil (in) one year."

Ug is not *ego*. In the first place, the vowel is long, the word being written *u-ug*. Secondly, the final *g* is the suffix which we find attached to the pronouns *ammu-g* "mine", *tu-g* "thine", as Professor Hrozný was the first to point out. His discovery of the various forms of the personal pronouns is, indeed, the most brilliant part of his work, and his determination of the true nature of the forms in *-(e)l*, *ammel*, *tuel*, etc., has thrown a flood of light on the Hittite language. But in identifying *ûg* with *ĕgŏ* the unfortunate mirage of his Indo-European theory led him astray. It is *û*, not *ug*, which represents the 1st personal pronoun; the form with final *-(e)l* is found in *u-ell-u* which we have in the YUZGAT tablet (*Obv.* 10): KHAR-SAG-MES-*as u-i-da-a-ar* GIS-SAR-ZUN *u-e-el-lu nu tu-el* . . . "the mountains, waters (?), forests which are mine [I give] to thee." The final *-u* denotes the plural as elsewhere, e.g. *nus* "them", *eseru* "they shall be". In H.K.B. p. 110 we find *û-g-a* agglutinated with *warus* "them": *abe-wa-mu idalu-ier u-g-a-warus idalu-*[*iyami*], "and should they do evil to me, I also to them [will do] evil." *Ammu-g*, also written *ammu-qq(a)*, more usually takes the place of *û-g*; thus Hrozný quotes a passage: *ammu-g ana* AN *Istar bilti-ya apât addin*, "I gave them to Istar my lady." Consequently it cannot be equated with the dative ἔμοι-γε. I have already dealt with *zik* or *zig*, which really signifies "a word".

The verbal forms are more serious. In my YUZGAT paper I had already pointed out that the 1st pers. sing. was expressed by *-mi* and *-i* and the 3rd pers. by *-t*; my materials did not provide the suffixes of the 2nd pers. sing. (*-si*), 1st pers. plur. (*-ueni*), 2nd pers. plur. (*-teni*), and 3rd pers. plur. (*-er*), which have been discovered by Professor Hrozný. I did not recognize the 1st pers. sing. in *-un* and *-nun*, and misinterpreted the suffixes of the 3rd pers. sing., *-nzi* and *-izzi*, the first of which I erroneously made a 2nd pers. sing. and

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the second the case of a noun. But I naturally recognized the agreement between the Hittite and Indo-European forms; no one, indeed, could fail to do so.

At the same time I also recognized that the forms are not peculiar to Indo-European. In Vannic, too, the 1st pers. is denoted by *-bi* (or *-wi*) and the 3rd pers. plural by *-tu*, while the 3rd pers. sing. is expressed by the suffix *-ni*. In Sumerian the 1st pers. sing. is *mu*, *ma*, and *mê* (or *mi*), the 2nd *zu*, *zae*, and *si*, the 3rd *ni*, *na*, *in*, while the 1st pers. plur. is *men*, the 2nd *zine* or *zien*, and the 3rd *nê* and *ene*. Moreover, the suffixes of the Hittite verb are not always distinguished from one another in sense as they would be in Indo-European. Thus *-ta* and *-ti* represent both the 2nd and the 3rd pers. sing., while *-ta* is also found with a plural subject, *-i* denotes the 1st and 3rd pers. sing. indifferently as well as the 2nd pers. sing. of the imperative, *-t* appears as the suffix of the 1st pers. sing. in *eskhat*, "I seated myself upon," and *-(n)zi* means "they" as well as "he" (*Keilschrifttexte*, ii, p. 48, l. 10). The chief verbal suffixes are attached also to nouns which can be used in the place of verbs. A noun with the suffix *-(n)za*, for example, which usually denotes a noun of agency, can take the place of a 3rd pers. sing. in *(-n)zi*. The use of the verbal suffixes, in short, approximates to that of the Caucasian rather than that of the Indo-European languages. The most strikingly Indo-European feature in the Hittite verb is the 3rd pers. plur. in *-er*, while the 1st and 2nd pers. plur. might be claimed by advocates of the Semitic origin of the Hittites, if any such still exist.

If we are to attain scientific results we must apply to Hittite the only legitimate method through which an unknown language can be deciphered, and proceed from the known to the unknown. In the case of Hittite we have fortunately a solid basis from which to start. The Vocabularies furnish us with the Assyrian and Sumerian translations of a large number of words, as well as of a few phrases. Next to them come the ideographs in the texts themselves, which are

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

accompanied by phonetic renderings or of which the phonetic renderings are found in parallel passages. As the signification of the ideographs is known, the signification of their phonetic renderings becomes known also. Determinatives tell us to what class a particular word belongs, whether it is personal or geographical, the name of a woman, of a vessel, an article of wood, and the like. With these various aids we can attack simple texts, more especially those of a historical character, and by a comparison of passages not only fix the meaning of individual words, but also the sense of the grammatical forms. What is not legitimate is to start with a theory of linguistic relationship and use this as a key, so determining the meaning of words. And this is what Professor Hrozný has done, thereby marring his work of decipherment, which is solid and brilliant as long as he keeps clear of this "Indo-Germanic" theory. It does not seem to have struck him how comparatively few of the words, the signification of which has been ascertained by legitimate means, lend themselves to it, and what desperate efforts are needed in order to discover an Indo-European origin for them. Thus *te* "to speak" is identified with the Indo-European *dhe* "to place", though it might have been thought that the Mitannian *ti-wi* "a word" was a more obvious relation. But such comparisons, however absurd, are innocuous where the signification of a word has already been determined in a scientific manner. It is otherwise where the signification is obtained by resort to an Indo-European dictionary.

Thus *karû* (which is found in the compound *karû-ariwar* "morning", literally "day-spring") is referred to the Latin *cûr* and explained as an adverb with the signification of "early". The word, however, interchanges with the Assyrian *yumi* "day" and means "to-day", e.g. MAR-SU-*ma-wa-ssi-za-gan kuis ana* GIS-GU-ZA ABI-SU *esat nu-wa apâss-a karû* AMEL KAL-*anza êsta*, "but as regards his son also who occupies the throne of his father, now he too is to-day a powerful man"; *nu karû* MU X KAM *khassuizna-*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

nun, "so 10 years to-day I have been king." From *karû* was formed *karûlis*; *kuwabi-wa karûlês khassus* (LUGAL-MES) *makhkhat uwanzi nuwa-za* MAT-*yâs sakldin makhkhan kabbuwanzi*, "the kings of the day return in succession[1] and thereupon afterwards number (the people ?) of the country."

There is, again, a word *naui*, also written *nawi*, of uncertain meaning. With the Greek νέος before his eyes Professor Hrozný renders it "new", and identifies it with a word which is written *na-a*-GESTIN in the ritual texts. He assumes that GESTIN "wine" was pronounced like the Latin *vinum*, and very ingeniously supposes that it was used phonetically with the value *wî*. But, in the first place, the first syllable of the Indo-European word for "new" is short, and secondly, it so happens that we know the Hittite word for "wine". In K.B. ii, 7, *Obv.* 18, the name of the city called Oinoanda by the Greeks is written ALU GESTIN *Yanuantas*, showing that the word for "wine" was *yanis* (Heb. *yâyin*, Ass. *înu*). *Na*-GESTIN occurs in a phrase which comes at the end of a list of endowments given to different temples or chapels by the king; e.g. K.B. ii, 1, *Rev.* iii, 6: AN *Samsi dais* (ME-*is*)[2] I *bit-ilim uedin* AMEL SANGU *massi nâ*-GESTIN, "(all this) the Sun-god (i.e. the king) ordains as the endowment of one chapel; (also) the investiture of a priest." Instead of the last sentence we sometimes find AMEL *massis watkut* "a priest is absent", *watku*, as Hrozný has seen, being the simple form of the (causative) *watku-nu-t* "he expelled", in the historical inscriptions. *Massis*, *massiyas* "a priest" is a common word in the ritual texts and is borrowed from the Assyrian *massu*, while the

[1] The signification of *kuwabi* is fixed by such passages as *nu-za-gan ana* GIS GU-ZA ABI-YA *kuwabi êskhat*, "and then on the throne of my father I seated myself in succession."

[2] In some of the ritual texts ME has its theological meaning of "prophesying". Its equivalence with the Hittite root *da*, which has been already noted by Hrozný, shows that the latter has nothing to do with the I.E. *dâ* "to give", as he supposes, nor with *dha* "to place", as I once suggested. Accordingly, *nat-gan khassî dâi* is literally "and this he ordains for the king", *dakhkhun* "I decreed", i.e. "assigned to".

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

signification of *nâyanin*[1] (*nâ*-GESTIN) is approximately fixed by K.B. ii, 2, *Obv.* i, 31–2: *kuit-man-z-as-gan khassueznanni nâ*-GESTIN *esari*,[2] "at what time he also shall have election to the sovereignty." It may be added that the word *pankus* "of unknown signification", which is mentioned by Hrozný in connexion with his "nawi-*νέος*", is explained in the Vocabularies by *alkakadu* "the courses" (of the priests) (K.B. i, 35, 11–12). Cf. *ina* UT II KAM *sa* AN-MES *mi-nu* MAR-ZUN[3] ME-*antes nat* MAKH-*ni* SEG-*antes ina* UD III

[1] *Yani(s)* as the phonetic reading of GESTIN furnishes an explanation of the colophon of the inscription I have published in the JRAS., October, 1912, p. 1036, where the third character in the second line is not a corrupt form of *qi* but GESTIN used phonetically. The character to be supplied is more probably AMEL than SARRU, so that the translation will be: "Of Arnuanda(s) the *Khnotiyanis*, the contents of the House of Stone Monuments."

[2] *Esari* has nothing to do with the root *asa* "to sit", which is vouched for by the Vocabularies. ANA GIS GU-ZÂ ABI-SU *esat* is "he occupied" (or perhaps, "mounted to) the throne of his father"; *nu-za* KHAR-SAG *Askharpaian kuis* ALU *Gasgas esan khurta*, "then the city of the Kaskians which had taken mount Askharpaias in (literally, as) occupation." In the Vocabularies *ês-zi* is translated [*i*]*su* "to have", and "a day-labourer" is UT-KAM-*as aniyan kuis êssai*, "he who receives a day's reckoning." On the other hand, the root *ês* corresponds with our substantive verb in a phrase like ALU *Iyaruwatas* ALU-*as sa* MAT ALU *Barga êsta*, "Iyaruwattas is a city of Barga"; while AKHU-MES-SU AMEL-MES *gaena-ssis* AMEL-MES *khassana-ssas â* ZAB-MES-SU *taruppantes eser* means "his brothers, his priests, his royal family, and his soldiers were assembling", and in the Vocabularies the Assyrian *tukultu* is rendered by *makhkhat esuwar* "to stand behind". Either two verbs, *es* and *ês*, one signifying "to be" and the other "to have", have been confused together, or verbal forms borrowed from Indo-European have been confounded with forms of native origin. Perhaps the key to the difficulty is to be found in the Arzawan letters, where *êstu* is followed by an accusative: SEG-*in ês-tu* "may they have prosperity". Similarly in Greek ἔχω has acquired the sense of "to be".

The city of Iyaruwattas, by the way, appears to be the Yarimuta or Yariwuta of the Babylonian and Tel el-Amarna inscriptions, possibly Qarmatia in the geographical list of Thothmes III, and certainly Armuthia in classical geography, which Tomkins identifies with Khan Karamâta on the descent from the Beilan Pass to the plain of Umk.

[3] The ideograph MAR means "a gift". *Minu* must be the Assyrian *mînu*. In K.B. ii, 2, *Obv.* i, 28, we have *minumarra*, which shows that the whole compound had been borrowed by the Hittite scribes. Hrozný refers it to the Latin *minus*!

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

KAM *pankus-za* GUB-*la-tar khulluya* ME-*as* "on the second day assigning the stated (?) gifts of the gods, giving them to the Great Goddess, on the third day in the services they prophesy (or decree) evil on the left side" (K.B. ii, 6, *Obv.* ii, 1–2). It should be noticed that *dâs* is plural, *dais* singular.

Another illustration of the false conceptions Professor Hrozný's Indo-European theory has introduced into his work is his explanation of the common verbal form in *-ki*. As this is very frequently preceded by *s*, he will have it that we have here the Indo-European verbal formative *-sk*, in defiance of the Hittite scribes themselves, who carefully separate the *k* from the *s*, as in the word *akkus-kittani* quoted above. As a matter of fact the *k* follows not only *s*, but also *n* (as in *khurnin-kun* "I attacked", "I conquered") and a vowel (as in *sip-anza-kir* "they offered"), and it is evident that it is really a separate verb attached to the accusative singular and plural of a noun and coalescing with them into a compound. *Tales-kit* stands on exactly the same footing as *tales-du* (H.K.B., p. 142). As in Vannic, such verbal compounds are plentiful in Hittite; *nu*, which forms a causative, is one of them; so, too, are the compound verbs in *te*, *ti*, or in *ya*, *iya*, and it is possible that the reflexive *-khkh-* was originally an agglutinated verb *kha*, *khu*. In *ya*, *iya* we plainly have the verb *iya*(*uwar*) "to make", *ki* may be the verb which, according to Hrozný, neans "to lay", or less probably *ku* "to be"; *te* or *ti* is a verb of common occurrence which signified "to approach", "join". The form in *-s* assumed by the first element of the compound occurs again in *ês-ta* "he has", "he is", *baras-ta* "he fled", *pais-ta* "thou gavest" (H.K.B., p. 180), the latter of which is parallel to the nominal *memis-ta* "thy speaker". By the side of *pais-ta* we find *pais-ti*, and a prefixed nominative could even intervene between the two elements of the compound as in *tuzziyas-mis khûitt-iyanun*, "I made my army assemble." The application of the categories of the Indo-European conjugation to the Hittite forms can lead only to a misconception of them,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

and would fail to explain forms like the compound *iyann-iyanun* (H.K.B., p. 180), *sarnin-kis-ki* (H.K.B., p. 128), or even *sakuwan-dares-kir* " they neglected " (H.K.B., p. 168).[1]

The Indo-European element *-smas*, which Professor Hrozný parades, is similarly a figment. *Nusmas* is merely *nus* + *mas*. *Nus*, the plural of the 3rd pers. *nas*, is of frequent occurrence; so, too, is the particle *más*, which is the " nominative " of the particle *mán*. Both *nus* and *más*, like *mán*, are used separately. Besides *más* we have *mas* and *man*, of which *ma* is a shortened form, as *anda* " towards " is of *andan*, final *-n* being probably pronounced as in French. It is possible that *mês* in *sumês* " you " is the same word as *mâs*, since we also find *sumâs-ma*, though it could be the borrowed Sumerian *mes*; at any rate, it affords no support for Hrozný's theory, not does the conglomerate *sumes-mas-mas*.[2]

The Latin *tepor*, again, suggests to Hrozný that *tapa-ss-as* in an omen-tablet (K.B. ii, 2) signifies "fever", and accordingly he translates the verb *uemiyazi*, which occurs in connexion with it " erfasst ", making it a compound of " a preposition " *u*, and the root of the Latin *emere* ! *Uemiya(nzi)*, however, is given as the equivalent of the ideograph KAR, which means " to carry away ", and *tapa-ss-as* " his *tapa* " cannot be dissociated from *tapal* " couple ", which has been borrowed from Assyrian and treated as a Hittite noun in *-l*. *Tapal* itself is a word borrowed from the Sumerian *tap* " double ", and assimilated to the Semitic *kapalu* " to double "; and

[1] Between a Vannic *amas-tu-bi*, " I made piecemeal of "—a compound of *amas* " pieces " and the verb *tu* or *du*—and a Hittite *akkus-kit* the parallelism is exact. A good example of the results of Professor Hrozný's " Indo-Germanic " obsession is his translation of the word *khameskhanza* in the historical inscriptions, which he refers to Skt. *samâ* " summer " or Lat. *hiems* " winter ". The Vocabularies, however, tell us that *khamen-kuwar* is the Ass. [*ku*]*zzuru* " to be gathered together ", so that *makhkhan-ma khames-khanza kisat* must mean, not " when the spring came ", but " after that mobilization took place ".

[2] In K.B. ii, 7, *Obv.* 17, *mas-mas* takes the place of ZUN, the ideograph of the plural: AN-MES TAK-ZI-QI-*mas-mas*, " the gods belonging to the sacred stone. "

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

tap-pu is found in the Hittite texts. The passages where Hrozný discovers his "fever" refer to the "double" or "representative" of the royal Sun-god and should be translated as follows: *kuit-man-gan* AN *Samsi* SAG MAT *Neriqqa kuit-man-as-gan sarâ uizzi mân-ma* AN *Samsi*: *tapa-ssa-s anda ûl uemiyazi nu* ŠU-MES DUMUQ-*ru* NU DUMUQ, "both when the Sun-god is within the country of Neriqqa, and when he goes into (it), but the Sun-god's representative there carries him away, will the flesh-omens be propitious? Unpropitious"; *tapa-ssa-s kuis ana* AN *Samsi* *[1] *kuit-man-as abiya* SAG MAT ALU *Neriqqa nan tapa-ssa-s abiya uemiyazi*, "he who is his representative * to the Sun-god; when he is (*kuit*) there in the city of Neriqqa, his representative there carries him away."

My last example of the dangers of a false method of decipherment is the word *lingain*, which Professor Hrozný connects with the Latin *ligare*. That it means "oath" is pretty clear, and Hrozný is certainly right in coupling it with *linkiyas* and similar words. But an unpublished text proves that it is really a compound. Here we read: *Kas-a* AN *Marduk* AN *Innaraowantess-a lien gaoen*, "and so the gods Merodach and Innaraowantes make an oath" (?), and three lines further: *namma* AN *Marduk* AN *Innaraowantess-a* GIG-*ya lie tiyanteni*, "then, O Merodach and Innaraowantes, do not draw near to the liver" (?). One of the most brilliant of Professor Hrozný's discoveries is that *li* or *lie* denoted the negative, and we must accordingly infer (1) that this negative can be declined like a noun, and (2) that in combination with the verb *gauwar* it has the sense of "swearing", thus giving rise to a compound *lingain*, *linkiyas*, etc. Consequently, it is not surprising that we find what appears to be the plural *lit* in YUZGAT, *Rev.* 4, or that the negative *ûl* can be treated like a noun and provided with a pronominal suffix, e.g. *ûl-watta*, literally "the not-of-thee" (H.K.B., p. 212). It is needless to

[1] Unidentified ideograph.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

say that the categories of Indo-European grammar do not apply here.[1]

I now pass to the numerals. Here Professor Hrozný has demonstrated that *khante-izzis* means "first"; hence ▏*-edani* must be read *khantedani* and "one" must be *khante*.[2] I believe there was also another word for "one", since it seems to be the equivalent of the ideograph ▏-EN "one" in H.K.B., p. 210; *namma* ▏*Bikhkhuniyas ûl sa* ALU *Gasga iwar taparta, khudak makhkhan ina* ALU *Gasga ûl sa* ▏-EN *tapariyas êsta, asi-ma* ▏ *Bikhkhuniyas sa sarruttim iwar taparta*, "then Bikhkhuniyas was not alone master of Kaska; until afterwards in Kaska there was not a single master, but subsequently Bikhkhuniyas was alone master of the kingdom." However this may be, Hrozný has shown that *iugas* and *tâ-iugas* correspond with the ideographically written "one-year old" and "two years old", *i* and *tâ* being respectively "one" and "two". The word for "three" terminates in *-ês*, and it is therefore worth noting that my decipherment of the Hittite hieroglyphic inscriptions makes *tua* and *kês* "two" and "three".[3] An interesting list of numerals, which, however, are not Hittite, has been published by Professor Hrozný from a vocabulary in which their Hittite equivalents are given ideographically. We learn from it that *aika* = 1,

[1] The Assyrian equivalent of *lingain*, etc., is *nies ilâni*, literally "the lifting up (of the hand to) the gods". *Lien-gaowar* would be literally "to sanctify non(-deceits)", *gaowar* being related to *gaennas* "priests" (see above, p. 61). *Gaennas, gaenas* is the κανειν of the Greek Lydian inscriptions, the *kuanis* of the Hittite hieroglyphic texts, written כהן in the Ördek-burnu inscription and borrowed by Hebrew, i.e. Canaanite, under the form of *kohen*.

[2] The word occurs in one of my fragments: [*kha*]-*an-ti-i ni-an-zi*, and in the next line *kha-an-ti-i kab-bu-*[*wanzi*] "he counts one".

[3] "Four" is *mi* and *kar* "ten", while "six" is probably *nati-ni*. In Vannic *suši*, *tara*, and *sis-ti* are "one", "two", and "three". The Hittite word for "seven" must be *is-khan*, since in the second Arzawan letter the Tel el-Amarna formula "seven times seven I prostrate myself" is rendered *iskhani-ttara-tar iya-ueni*, "we perform the sevenfold," i.e. the ceremony of the sevenfold prostration.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

têra = 3, *panza* = 5, *satta* =6, *nâ* = 9.[1] The words belong to an Indian rather than an Iranian language, and conquently to the dialect of which the divine names Indara, Aruna (Urumna), and Nasatiya are evidence. Hrozný supposes it to be Kharrian, but the name of the "Kharri" is more probably to be read Murri, and I see in them the Amorites of the Babylonian texts.

In close contact as it thus was with Indo-European languages of various types—Indian, Iranian, Greek, and perhaps Kelto-Latin—it is not surprising that Hittite was largely influenced by them, while they in turn were influenced by Hittite and other Asianic forms of speech. Javan, according to Genesis, was the brother of Meshech and Tubal. But, as Dr. Bork has remarked, no student of linguistic science who examines the structure of the sentence can imagine for a moment that it is an Indo-European language. Few Assyriologists, however, are also comparative philologists. Its most notable peculiarity is the conglomeration of all the pronouns and pronominal particles into a single word at the beginning of a sentence, reminding us of the American languages or of the Basque verb. Conglomerates like *arakhzenas-wa-mu-za* (KUR-KUR AMEL-KUR *kuie*), "among-to-me-also-numerous (hostile countries being)," *pându-waz asandu*, "in-that-they-might-go (and) settle" (H.K.B., p. 110), or the forms in *-l* quoted by Hrozný (S.H., p. 54), *sarnikzi-el* "(he) clears (himself)", *ispatuzzi-ela-ss-az* "and they . . . (themselves)", would be impossible in a language of the Indo-European type. Gender, again, is unknown to it; in many cases, especially in the verb, no distinction is made between the singular and the plural; there is no clear distinction in use between the verbal and nominal forms, the nominal suffixes *-nza*, *-is*, *-i*, etc., being employed in a verbal sense, not to speak of the suffix *-l*; and postpositions take the place of prepositions. The only prepositions are the borrowed

[1] The numerals occur in the compound *aika-wartanna* "in two layers", etc.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ana, *ina*, and *istu*, though the demonstrative particle *nu* occasionally follows the analogy of the Assyrian *ana*, and is used in its stead. But this was doubtless merely in "the language of the scribes".

It is now plain that *ana* and *ina* can no longer be regarded as borrowed by the Babylonians from the Hittites. But the fact remains that they are not Semitic. They were originally *ana* and *in*, the final vowel of *ina* being due to the analogy of *an*; in the inscriptions of Sargon of Akkad the word is still *in*. Now *in* and *ana* are the Greek ἐν and ἀνα; and the conclusion therefore follows that they have been borrowed by Assyro-Babylonian from an Indo-European source.

All this opens up a new vista in philological history. The Indo-European languages must have been moulded into their leading forms, not in Europe or Central Asia, but in Asia Minor. Here, where bronze seems to have been first invented and from whence the use of iron spread through the Oriental world, would have been a primaeval meeting-place of languages, as the Caucasus still is to-day. We already knew that a considerable part of the Greek vocabulary must be traced to Asia Minor; we are now at liberty to believe that its grammar was shaped there as well. Even the hexameter, which implies a long preceding period of artificial development, first appears on Asianic soil. And what is true of Greek must be also true of the other Indo-European languages.

On the other hand, the Asianic languages must have been profoundly influenced by their Indo-European neighbours. Future research will have to determine on which side the borrowing has been in individual cases. The facts are only just rising above the horizon. Among these facts is the position of Sumerian. We knew that the Sumerians must have originally come from the Armenian highlands, for they brought the vine with them from the mountains of the north from which they had migrated. And between Sumerian and the newly revealed Hittite there are points of contact almost as striking as between Hittite and Indo-European; the personal pronouns, for example, *mi*, *si*, *ne*, *enzên*, and *bi*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Boghaz-Keui, or Khattu, which is interpreted "Silver"-town in the tablets, was not the original capital. This had been Arinna, which is interpreted "the Well-"city. It would, therefore, have derived its name from a sacred well; an offering to such a well is described in B.K. ii, 9, *Rev.* iv, 2, where it is associated with "Istar of Nineveh". Arinna consequently appears to be the Phreata or "Wells" of Prolemy's *Geography* which was in Garsauria, and near Archelais, now Ak Serai. The name may be preserved in the neighbouring Arianzos, the hereditary property of Gregory of Nazianzen (see Ramsay, *Historical Geography of Asia Minor*, pp. 284–5). The site would suit that of Arini, captured by Tiglath-pileser I, which was not far from Komana.[1] The "Silver"-city took its name from the silver-mines of the Taurus, and was known to the Greeks in the Homeric Age. According to the *Catalogue* (Il. ii, 856–7) Hodios, "the (commercial) Traveller," the *damgar* of the Cappadocian tablets, and Epistrophos, "the Agent," came to the aid of Troy from distant Halybê among the Halizônians, "where is the birthplace of silver." The Halizônians are the Khaliṭu of an inscription of the Vannic king Ruśas II, who mentions them after the Muski-ni or Moschians and the Khatê or Hittites.[2]

Istar of Nineveh, like the other anthropomorphic deities of Asia Minor, was introduced there along with the other elements of Babylonian culture. But the old fetish-worship

[1] Iron images of the sacred wells, who were "daughters" of Tessub, were made by the city of Mamnantas, according to K.B. ii, 13, *Obv.* 21-4. The eldest was called "the excellence (*dub*) of 'the well Altannis, the Komanian'" (*Qumayannis*), while another well or spring bore the name of *Tarkhana(s)* from the god Tarkhu. The river Siga-sigas was connected with them, but how the mutilation of the tablet prevents us from knowing. Siga-sigas is written Sîkassikas in K.B. ii, p. 44, l. 25, where Altannis is stated to be "its excellence" (*dub-sas*).

[2] Hittite z later becomes *ṭ*, as in Meliṭu (Malatiyeh) from Meliz. Hence, if Hrozný is right in identifying the Indo-European locative suffix *-d* with the Hittite *-z*, it must have been borrowed from Hittite after the z had become a dental.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

continued to survive. The ritual texts, for example, make frequent mention of the "ZI-QI stones" of various gods to which the same adoration was paid as to the images of the divinities, and in one instance at least the determinative of "stone" is replaced by that of "god". ZI-QI is literally "spirit messenger"; the stone, in fact, was the embodiment of a spirit who delivered his messages through it. In the Hittite hieroglyphic texts the sacred stone is the ordinary symbol for "a god" or "goddess", and it is depicted as being bound round with the consecrated coloured wool which made its way into Greek ritual. The cult of the sacred stone long survived in Asia Minor and the regions influenced by it. The meteoric stone of Ephesus which later ages identified with Artemis is well known, and as late as the reign of the Roman Emperor Elagabalus a similar stone was worshipped in Syria. At Boghaz Keui the sacred stone seems to have been the embodiment of Attys, and we read in a ritual text (K.B. ii, 6, *Obv.* ii, 34): *ina* UD III KAM AN *A-ti-is* DU-*is nu sa* SARRU *a-tam-ma*[1] MU-*an-na* ME-*as nan* AN MAKH-*ni pa-is*, "on the third day Atis comes, to whom the King's son is committed for a year; he gives him to the great goddess."

In conclusion, it may be asked whether the Semitic languages also were affected by contact with the languages of Asia Minor. That Hittite was influenced by Assyro-Babylonian we know; the Cappadocian tablets from Kara Eyuk show that there were Babylonian colonies in eastern Asia Minor as far back as the age of the third dynasty of Ur (2400 B.C.), and when the Hittites adopted the literary culture of Babylonia some two or three centuries later they borrowed plentifully both Assyrian and Sumerian words. But there is little evidence of borrowing in the opposite direction. The Hittite occupation of Canaan brought a few words like *kohen* "priest" or *yayin* "wine" into the Hebrew lexicon, as well,

[1] According to K.B. i, 57, 3, *atam*-AN ZE, "the child of the storm-god," is a synonym of *zurratti*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

probably, as the tendency for *u* (or *w*) to become *i* (or *y*). It is possible that the Aramaic dialects of Northern Syria were more largely influenced by their Asianic neighbours—the change of *z* (originally *đ* to *d*) seems to testify to this—but at present it is nothing more than a possibility. At all events, the non-Semitic pronunciation of *m* as *w* in Assyro-Babylonian (and Sumerian) must be traced back to Asia Minor.

The YUZGAT inscription in which the Royal Asiatic Society has a special interest can now be translated to a large extent. In fact, the chief obstacle to a complete and satisfactory translation is its mutilated condition. The text is an interesting one. It embodies a mythological poem which was recited during a religious ceremony, and in which the Sun-god, Tessub, and a local hero named Khakhkhimas were the chief figures.

Obv. 2. . . . tu-el MAR-MES-KA SAL [+ KU-MES] .
. . . *thy sons* (*and*) [*daughters*] . .

3. . . . zi AN IM-as a-na NIN-[MES-us] . . .
. . . *Tessub to the ladies* [*says*] . . .

4. . . . as nu-wa-ra-at-mu te-it mi (?) . . .
. . . *so it to me he says* . . .

5. . . . MAR-MES-ya tak-ku AMEL-is ku-na-an-za . .
. . . *my sons if the man a butcher* (?)[1] [*is*]

6 . . . LU-us ku-na-an-za na-an a-ap-pa khu-is-[nut] . .
. . *the sheep he kills* (?), *him thereupon he* (?) *serves.*[2]

7. [nu-wa-] ra-at MAR-MES-KA ku-in sa-ga-in i-ya-an-zi
As to it thy sons what . . . they do,
Kha-[akh-khi-mas]
Khakhkhimas

[1] In Hrozný, H.K.B. p. 72, *kunanzi* is used of killing a pig.

[2] In the Hittite translation of an Assyrian astrological tablet, published in K.B. ii, 19, *Obv.* 10, MAT GAL *ana* MAT TUR *khuis-*[*nut*] represents the Assyrian "a great country shall serve (*ikannus*) a small one" (see Virolleaud, *Astrologie Chaldéenne* (Adad), p. 8, l. 14).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

8. ud-de-e khu-o-ma-an ti-nu-ut u-i-da-a-ar
the estate[1] *all* *inherits ;* *water* (?)
kha-ad-nu-te-[es]
providing (?)

9. Kha-akh-khi-ma-as GAL-is khu-wa-an-ti a-na
Khakhkhimas, *the chief* *of the family,* *to*
SIS-SU SIL-as ki-iz-zi . . .
his brother *the roads* *bequeathes* [*saying*] :

10. KHAR-SAG-MES-as u-i-da-a-ar GIS-SAR-ZUN
the mountains, *the water* (?) (*and*) *the forests*
u-e-el-lu nu tu-el . . .
are mine ; *to* *thee* . . .

11. wa-ar-su-la-as SE-MES pa-is-ga-ta-ru nu-us
the growing[2] *grain* *shall be devoted*[3] *;* *this*
lie ti-in-nu . . .
I did not inherit.

12. nu-u-ZUN-an XX KUR-MES GUD-ZUN
As to these 20 *lands,* *the cattle,*
LU-ZUN UR-KU-ZUN SAKH-ZUN ti-in-nu [-zi]
sheep, *dogs,* (*and*) *pigs* *he inherited ;*

13. MAR-MES kar-ta-as-ma khal-ki-us
but the sons *of the sanctuary*[4] *the wheat*
[u-ul] ti-in-nu-zi tak-ku . . .
he did not inherit. *If* . . .

[1] Mursilis states that when his father died the throne was seized by a boy, who MAT *Khatti* ZAG-ZUN MAT *Khattiya-wa ûl tinuzi*, "did not inherit the frontiers of the land of Khattu or the Hittite country" (Hrozný, H.K.B. p. 168). As to *uddê*, King Telibinus says: [*nu uddê khwrnin-ki* ?-] *is-kit nu uddê arkha tarranut*, "so the lands he attacked, the lands he devastated"; *nu uddê maniyakhkhes-kir*, "so the lands became tributary." Hrozný quotes a passage : *mân abêdani uddê mân damêdani* MAT-*e*, "if their estates or other countries" (H.K.B. p. 96).

[2] According to the Vocabularies the verb *warsi* means "to exist" (Assyrian *basu*).

[3] A compound of *pais* ("giving") and *ga*, *gao*, for which see above, p. 65. The verb has no connexion with *pasgauwar*, which the Vocabularies interpret "to erect" from *pasgas* "a stake".

[4] Related to *kartamm-iyau-wanza* (compounded with *iya* "make"), which seems to have something to do with an oracle (K.B. ii, 2 ; *Rev.* ii, 44 ; iii, 25).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

14. nu-ma-as-ta-an gu-un DAR (?) URUD
. . . *a talent of* . . . *copper*
tu (?)-uz-zi-ya-an-za khur-zi . . .
the army (?) *shall take* . . .

15. nu-us u-ul ti-in-nu-zi ma-a-an-ku-it-ta-khu-o-ma-an . . .
these he does not inherit. And thus the whole of it[1] . . .

16. a-pa-a-sa pa-it AN IM-ni te-it ki-i ku-it ki-sa-at . .
and he {*goes ; to Ramman he says That thus it is done* . .
{*gives ;*

17. a-si Kha-akh-khi-ma-as at-ti-is-si an-ni-is-si
Then (?) *Khakhkhimas to his father* (*and*) *his mother*[2]
te-iz-zi . . .
says : . . .

18. ki-i az-zi-ik-ki-ta-ri ak-ku-us ki-it-ta-ni . . .
in accordance with charms (*and*) *incantations* . . .

19. kab-bu-wa-at-tin ku-tu-un u-ul ku-it-ki
count . . .[3] *nothing at all,*
AMEL SIB-LU AMEL SIB-GUD . . .
shepherd of sheep (*and*) *shepherd of oxen* . . .

20. a-pa-a-sa ud-de-e ti-ni-nu-ut AN IM-sa
And he the estate inherited, and Tessubas
u-ul sa-a-ak-ki-[it]
did not know.[4]

21. AN IM-as AN UD-i bi-i-e-it i-id-din-wa
Tessubas to the Sun-god speaks "he has given".
AN UD-un u-wa-te-it
The Sun-god he brought.

[1] *Kuit-mân* is used in the sense of "when", Ass. *adi* in the Vocabularies. *Mân-kuit* would be literally "this it is (that)". *-a* is the suffix of the copulative conjunction.

[2] Notice that the words for "father" and "mother" are Asianic, and not the Indo-European. The suffixed *-s* is the possessive pronoun.

[3] *Kutun* may be related to the *kutassan* of the Vocabularies : *kutassen arnuwar* = Ass. *uzzuzu* "to put a question".

[4] In the Vocabularies *sâkki* is translated *idu*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

22. pa-a-ir AN UD-un sa-an-khi-es-gan-zi
They march. The Sun-god he establishes (there).
na-an u-ul u-e- i-ya-[zi]
Him he does not carry away [1]

23. AN IM-sa te-iz-zi nu-wa-ra-an ku-it
and Tessubas says: Him thus
kha-an-da u-ul u-e-mi-ya-[mi]
for ever [2] *[I] do not carry away.*

24. [a-pa-] a-sa-wa am-me-el tu-e-ig-ga-as mi-e-es
And he my . . . even mine (?)
a-a-an-ta
shall share (?). [3]

25. [a-pa-] a-sa-wa ku-wa-bi khur-ak-ta
And he in succession has received (them).
nu ⟶ Za-gâ-gâ bi-i-e-it
Then Zababa he addressed:

26. . . . wa AN UD-un u-wa-te nu
[Hither also] the Sun-god bring. So
AN Za-gâ-gâ Kha-akh-khi-ma-as its-bat
Zababa did Khakhkhimas take.

27. [zi-]ik-wa AN Lamas-an khal-zi-is-tin [4]
By word the Guardian-spirit they summon,
a-bu-u-un-na-wa ti-nu-zi
and him he inherits.

28. . . . wa-ra-as gi-im-ra-as i-as nu a-bu-un-na
He . . . all (?) the lands (?) [5] *So him also*
Kha-akh-khi-ma-as its-bat
Khakhkhimas took.

[1] *Uemiya* is the Hittite representative of the ideograph KAR "to carry away" (see above, p. 63). [2] Literally "fixedly".

[3] There is a word *anta* with short initial vowel which seems to signify "a consort", but it makes no sense here.

[4] *Khalzis-ti-n* is a 3rd pers. pl. of a "verb" compounded with *ti* or *te* (like *sidis-tu* in Vannic). The verb is shown by a comparison of passages to signify "to summon", "call". In H.K.B. p. 180, *nu-wa-mu-za* TUR-*lan khalzessesta* is, "And against me you summoned a youngster."

[5] In K.B. ii, p. 45, l. 30, we have: KÛ-*zi* NAK-*zi kha-kan-zi* GESTIN, "they eat, they drink, they enjoy themselves with wine," while a

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

29. . . . id-din-wa AN Te-li-bi-nu-un khal-zi-is-tin
. . . *he gave and Telibinus they summoned:*
a-pa-a-as-wa TUR-YA [es-ta (?)]
He also my son [is (?)]

30. . . . [na ?]-ak-ki-is khur-as-zi[1] te-ri-ib zi
The . . . receives him; he enters (?);
wa-a-tar na-i khal-di-in-na
word he sends and the . . .

31. . . . [its-] bat TAK bi-ru-lu u pi-ri nu
. . . *he took the beryl and ivory. So*
a-bu-u-un-na Kha-akh-khi-ma-as its-bat
him also Khakhkhimas took.

---

32. . . . wa AN Gul-as-sa-an AN Makh
. . . *belonging to Gula the Supreme Goddess*
khal-zi-is-tin tak-ku-wa a-bi-e a-ki-ir . . .
they summoned. Now if they die . . .

33. . . . e-ya im-ma a-ki-ir MU ⅂-as a-bi-e-el
. . . *ever they die for one year their*
DUP (?)-KA[2]-as Kha-akh-khi-ma-[as . . .]
titles (?) Khakhkhimas [shall have].

34. . . . Kha-akh-khi-ma-as AM IM-ni te-iz-zi
[Then] Khakhkhimas to Ramman says:
ku-u-si-wa bi-is-sa-at-ti . . .
As to the dowry (?) of thy daughter (?)[3]

35. . . . nu-si khu-o-ma-an-te-es a-ki-ir MU ⅂-as
. . . *to her all-belonging are dead; for one year*
ki-i-ni GAL-ri . . .
the inheritance to the head (of the family) [give].

corresponding passage (p. 48, l. 10) has: III GAR-GI-RA I DUK *khu-ub-bar* KAS AMEL-MES *kha-kan-zi* GESTIN-*ya-as*, "three food-offerings, one barrel of beer, the men enjoy themselves with wine."

[1] With incapsulated pronoun.

[2] KA "gate" cannot be used ideographically here, but must have some phonetic value derived from its name in Hittite.

[3] Cf. *kusata* TUR-SAL-*ti* in the first Arzawan letter.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

36. . . . nam-ma khur-si MU ⅂-as
. . . *Afterwards you receive (it). For one year*
AN Kha-sa-am-mi-li-as SIS-MES-SU . . .
the god Khasammilias his brothers . . .

37. . . . an-ni-ik-ni-es MU ⅂-as a-bu-u-us
. . . . . *One year them*
Kha-akh-khi-ma-as u-ul its-bat
Khakhkhimas did not take.

38. . . . a-bu-u-us khal-za-is AN IM-as
. . . *them summoning Tessubas*
Kha-akh-khi-im-mi
to Khakhkhimas

39. [te-iz-]zi ki-is-sa-ra-as-mi-is-wa GAL-ri-ya an-da
[*says*] : *My hands*[1] *indeed for the head (of the family)*
da-me-in-[kir]
are sufficient;[2]

40. . . . ya da-me-in-kir tak-ku-wa ku-u-us-sa
for . . . they are sufficient. But if it is the dowry
NIN-MES-us SU-ZUN-us
of the women[3] *the coins*

41. . . . IGI-ZUN mi-ta-wa
. . . *the presents*[4] *are mine* (?) ;
lie e-ip-si
you must not carry (them) away.

---

42. . . . AN IM-ni SIL-as ki-iz-zi a-ut-ti-wa
. . . *to Ramman the roads he bequeathes, and . . .*
TUR-MES-as ma-as . . .
my (?) *sons . . .*

43. . . . wa-as-sa-an ne-bi-si pa-i-mi
. . . . . *I have given*

[1] Cf. the first Arzawan letter : *kissarissi Arsappa* "by the hand of Arsappa".
[2] In the Vocabularies *dameda* is translated "rich".
[3] The grammar of this passage is not clear to me.
[4] Ass. *mikhirti*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

44. . . . NIN-MES-us khu-is-nu-ut
. . . *the women* *serve*

* * * * * * *

Rev. 1. . . . ta na-is AN EN-ZU-na IGI-e-it[1] . . .
. . . *thy* . . . *sending* *and the moon-god is first* . . .

2. [AN-MES-an ud-da-]a-ar KA-GAL-as kas-man
the word [*of the gods*] *at the gates*
IGI-e-it AMEL-MES su-gi SAL[-MES su-gi]
is first ; *the priests* (*and*) *priestesses*

3. . . . an-zi u-ug-ga SAL An-na-an-na-as e-es-mi
. . . *they* . . . *and I* *Annannas*[2] *have* (*it*).

---

4. . . . sa-li-it akh-kha-ti sa-at[3] u-ul da-akh-khu-un
. . . . . *the sister* . . . *I did not assign ;*
zak-ni-ta . . .
. . .

5. . . . akh-kha-ti na-khat da-[akh]-khu-un
. . . *the sister* *forthwith* *I assigned ;*
AN-MES-an ud-da-a-ar ne-iz-za-an . . .
of the gods *the word,* *of the* . . . . . .

6. . . . su-ukh-kha-akh-khu-un a-is-mi-it[4] kha-la-as-mi-is
. . . *I conveyed :* *with* . . . *my head*
khat-ta-lu . . .
. . . . . .

7. . . . ma is-ga-ra-aq-qa-as na-as-sa-an se-ir
. . . *bond-servants* (?) ; *to them*
te-ekh-khu-un GU-KHUR e-[ip . . .
I said : *The back-bone* *take* [*away*].

---

[1] *Khanteit.*

[2] "She who is attached to the mother(-goddess)."

[3] *Sat* can hardly be the possessive pronoun, as it is separated from *akhkhati.* Possibly it signifies "these things" (cf. *Rev.* 16).

[4] The passages containing *mit* indicate a signification like "together with". The word has nothing to do with the enclitic *he*, "a second time," "again," with which Hrozný would identify it.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

8. . . . [AN-]MES-as ud-da-a-ar u-ul-ku-it-akh-khur-ni-
. . . *as to the* [*gods*] *the word* *I did not oppose,*
in-ku-un[1] ma-a-n-s-an . . .
and it . . .

9. . . . AN Te-li-bi-nu-sa ku-e-da-ni-ik-ki na-ak-ki-es-zi
. . . *and Telibinus* *at length* (?) . . . *ed.*
u-ga AN-MES-as ud-[da-a-ar]
and I *as to the gods* *the* [*word*]

10. . . . ma-akh-khi-ta-an mu-ga-mi AN UD-sa
. . . . . *praised* (?), *and the Sun-god*
te-iz-zi AN MES-as ud-da-a-ar pa-it . . .
says: *As to the gods* *the word* *marches* . . .

11. . . . na-az-mi-sa ku-wa-a um-ma[2] AN MAKH
And . . . . . *thus* *the Supreme goddess;*
nu ma-a-an AN UD-us a-as-su ku-e-it . . .
This *the Sun-god* *as a possession* . . .

12. . . . ti li-ga[3] IX -an pa-a-u ku-is
[*receives*], *and to him* 9 *times* *let him give;* *he who is*
AMEL MAS-DU nu-ut-ta I LU pa-a-u
a peasant *to thee* *one* *sheep* *let him give.*

---

13. . . . wa-as AN Te-li-bi-nu-wa-as-sa mu-ga-u-wa-as
Of . . . *and of Telibinus* *the praises* (?)
qa-ti[4]
I have copied.

---

[1] *ûl-kuit-á khurninkan*, literally "and it was not (that) I opposed".

[2] The Hittite *kissan*.

[3] In V.R. xx, 4, 57, *li* is given as equivalent to *atta* "thou", and in xx, 35, *la* as equivalent to *sû* and *li* to *suatum* in languages that are presumably Asiatic.

[4] *Qati* is the Ass. *qati* "my hand", which came to be used in Hittite with the meaning "my hand-writing", and to be conjugated as a verb. It must be distinguished from another domesticated Ass. word *qatamma*, abbreviated to *qatam*, with the particle *be* "again" often attached to it, which is from the root קדם "in front".

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

14. . . . az ki-i I DUK GIR-GIR ZABAR
In . . . thus one bowl of bronze
GUL na-ak-dam-su ZABAR . . .
together with its cover of bronze, . . .

15. . . . ZABAR a-n- na-ak-dam-mi zi-ig-ga-te-es
. . . of bronze to the cover affixed;
I GIS-GAL ZABAR . . .
one door[1] *of bronze . . .*

16. [I GIS a-ri-im-] pa-as ZABAR II GIS DUP
[one vase] of bronze, two seals
ZABAR I GIS-IR ZABAR I
of bronze, one chain of bronze, one
GIS-MAR ZABAR . . .
car of bronze . . .

17. . . . ZABAR II GIS AL (?) ki-is-ta-as ib-bi-as
. . . of bronze, two signets (?) of white . . .[2]
GIS-AL ki-is-ta-as . . .
a signet (?) of . . . kistas . . .

18. . . . I GIS su-u-zal-las-a GIS-DUP-akh-khu-ra-as
. . . one . . . signet-stones (?),
TUR GAB-EDIN dakh-khu-u-[zi]
the offspring of the field he has given

19. . . . as III DUK ku-ku-ub is-tu III PU-ZUN[3]
. . . jars with three holes
wa-a-tar[4] ku-it-ta . . .
in front (?) and it was . . .

20. . . . an-zi GUL III GIS bu-o-ri-ya-as-mi-is
he . . . along with my three . . .

---

[1] Or perhaps "lock".

[2] *Kistas* cannot be "silver" as I formerly conjectured, as this we now know was *khattus* in Hittite.

[3] *Arias* or *aris* in Hittite.

[4] Cf. *watar-nakhkhanza*, which, according to the Vocabularies, signified "an ambassador" (*mâeru*).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

21. . . . [GAR]-GI-RA GAL I
. . . *for food* *a great (vessel),* *one*
DUK GESTIN I DUK śi-nu-wa-an I
wine-cup *one* . . . *one*
DUK KAS-EDIN I DUK GESTIN (?) . . .
beer-jug *one* *wine-cup (?)* . . .

22. [I RAB ZAL DUG-GA I RAB
one *measure* *of* *good oil,*[1] *one* *measure*
EDINA I RAB ZAL-LU
of common (oil), *one* *measure* *of mutton-fat,*
TAK MAN TAK ZA-GIN[2] TAK ŚI-A
. . . *stone,* *lapis lazuli,* . . . *stone,*
TAK SIG-SIG . . .
greenstone . . .

23. . . . be-tu-la-as sa-ne-iz-zi ki-na-a-an-ta
. . . . . .
GIS sa-a-khi . . .
. . . . . .

24. . . . ya-as GI DUG -GA na-at is-tu ZAL
. . . . . *a* *good* *reed:* *these* *with* *good*
DUG-GA khur-ne-iz-zi
oil *he offers (?).*

---

25. . . . ma-khar-is-sa-an BIT-za[3] ga-da[4] II
he presents it *to the temple* *with* 2
GIS BANSUR GIS lu-ut-ti-ya da[a-i]
tables *and* . . . *he gives;*[5]

[1] In an unpublished text *eeskhan-ta* interchanges with *istu* ZAL DUGGA "with oil". *Eeskhar*, however, signifies "white blood".
[2] The Ass. *uknu* was borrowed according to K.B. ii, p. 22, l. 25.
[3] "House" was *biras* in Hittite (Lydian *bira*). The Hittite suffixed pronoun is attached to the Ass. verb *imakh[kh]ar.*
[4] Ass. *qadu.*
[5] Literally "assigns".

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

26 . . . ku-wa-bi-ya I GAR-GI-RA da-a-i
. . . *and next one food-offering he gives ;*
nu-us-sa-an a-na I GIS BANSUR
and these to a table

27. ki-i u-nu-te-es[1] da-a-i I DUK GIR-GIR
as furniture he assigns. One bowl
ZABAR qa-du na-ak-dam-mi GIS-GAL ZA[BAR]
of bronze with the cover, the door of bronze,

28. GIS a-ri-im-pa-as ZABAR II GIS DUP ZABAR
a vase of bronze, 2 tablets of bronze
i-na I GIS BANSUR a-na AN UD da-[a-i]
on a table to the Sun-god he assigns.

---

29. GIS NIG-GUL ZABAR I GIS-SITA ZABAR
An axe of bronze, one water-holder of bronze,
I GIS-KAK a-na I GIS BANSUR I na-an . . .
one peg for a table, one . . . . .

30. da-a-i a-na II GIS BANSUR-ma is-tar-na
he assigns : to 2 tables also in front the
IX GAR-GI-RA-GAL i-na GIS ma-ki-iz[2]
9 chief food-offerings in a . . .
da-[a-i]
he assigns.

31. se-ir-ra-as-sa-an[3] im-zu GA-QI-AK-ya da-a-i
Of sweet wine a jar and a milk-jug he assigns.
nu TAK-ZUN si-ti-is-si-[ya-as]
So stones bright (precious),

[1] Ass. *unutu*.

[2] The final *-z* is the Hittite locative corresponding with the Ass. *ina*. Instead of *maki* we could read *kuki*.

[3] Borrowed by Assyrian under the form of *seras*, *tîrôsh* in Hebrew. As we have seen, the usual word for "wine" in Hittite was *yanis*, but another word was also employed, *uiniyandas*, which is a derivative, probably from the word for "vine". *Uiniyandas* is found in one of the tablets published by Boissier : *khalzissan-zi-ma* [*ui*]*niyandan u-i-ni-ya-an-da-an eku-zi*, "he calls also for wine ; he tastes (?) the wine." *Uintar* is found in the same inscription.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

32. III DUK-ZUN GESTIN-NA MAR nu AN
3 *vessels of wine a gift for the god*
KAS-EDIN III DUK ku-ku-ub-ZUN
of native beer, 3 *goblets*
u-e-te-na-as[1] qa-du . . .
for water (?) *with* . . .

33. RAB ZAL DUG-GA RAB EDIN
a measure of good oil, a measure of common (*oil*),
ZAL LU sa-ni-iz-zi[2] ki-na-an-ta ki-i
mutton-fat, he . . . . . according to
khu-u-pa . . .
. . .

34. I GIS BANSUR u-nu-wa-an-ta a-na
One table by way of furniture to
AN-UD da-a-i I GIS BANSUR
the Sun-god he assigns; one table
u-nu-wa-[an-ta]
by way of furniture

35. a-na AN Te-li-bi-nu da-a-i ma-a-an AN-lum
to Telibinus he assigns: this the god
a-sa-a-si zi-in-ni-e . . .
. . . *completes* . . .

36. ne-khu-uz me-khur-ma DUK pa-akh-khu-i-na-li-az
At the hour of sunset in a fire-brazier
pa-akh-khur pa-ni AN-lim da-[a-i]
the fire before the god he places.

[1] Hrozný quotes a passage: DUK ME-E *sîkhillas u-i-te-e-ni*, from which it would appear that *uitêni* is equivalent to the Ass. *mê* "water". On the other hand *-nas* is an adjectival suffix, and the stem *uete* signifies "to bring".

[2] *Sanizzi* or *saneizzi* may signify "set on fire", or something similar. *Kinanta*, also written *kinanda*, is an adverb like *unuwanta* or *ziyanta* ("in the face of"). So *gananda* "for ever" in the Arzawan letters.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

37. sa-ne-iz-zi sa-me-se-iz-zi nu SAL SU-GI be-el
He . . he . . . so the priestess of the lord
AN-lim khu-uk-ku-us
of the gods the omens (?)

38. khu-uk-zi II Su ir-kha-iz-zi bit-AN-lim kha-ad-ki
examines (?) ; *twice she . . .* (?) *The temple she opens.*
na-as-ta khat-ra-a
Then forth

39. u-iz-zi a-bi-ya UD-ti u-ul ku-it-ki i-ya-zi
she goes. My father to-day nothing at all does.

40. ma-a-an lu-uk-kit-ta be-el AN-lim
When on the morrow the lord of the gods
pa-ni AN-lim iz-iz-zi sa-ne-iz-zi
before the gods appears (?) *she . . .*

41. sa-me-se-iz-zi khu-uk-ku-us khu-uk-zi III
. . . the omens (?) *examines*(?) ; *thrice*
ir-kha-iz-zi
she . . .

42. I GAR-GI-RA . . . a-na AN UD
one food-offering . . . to the Sun-god
mas-si-ya i-na BANSUR da-a-i nu
my lord on the table she assigns ; then
MAR
as a gift . . .

43. GESTIN-an a-na AN-UD si-pa-an-ti I
wine to the Sun-god she offers ; one
GAR-GI-RA . . . a-na AN Te-li-bi-nu-[un]
food-offering . . . to Telibinus

44. a-na GIS BANSUR AN Te-li-bi-nu da-a-i
for the table of Telibinus she assigns.
MAR nu AN KAS EDIN GESTIN-an . . .
As a gift to the god of native beer wine . . .

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

45. si-[pa-an-] ti I MAS-GAL I LU a-na
she offers. One full-grown kid, one sheep to
AN UD AN Te-li-bi-nu-ya tak-sa-an
the Sun-god and Telibinus duly
[da-a-i]
[*she assigns*].

---

46. . . . khu-i-su[1] sa LU GU ZAG-LU GU GAB
. . . . . *a sheep's loin, breast (and)*
SAK-DU NIN-MES . . .
head the women [shall offer?]

47. . . . da-a-i sa MAS-GAL-ma GU-GAB
. . . *assign. And a grown kid's breast*
GU ZAG-LU SAK-DU [AMEL-MES . . .?]
loin (and) head [the men shall offer?]

48. [a-na AN Te-] li-bi-nu AN UD ma da-a-i . . .
[To] Telibinus and the Sun-god assign (them) .

POSTSCRIPT.—Besides *iwar*, "single," "sole" (if such is its meaning), we find a postposition *iwar* which is explained by the Assyrian *itti*, "with," as well as a verb *iwar*, which the Vocabularies interpret "to seize" (*liaku*) by the side of *iwaru*, interpreted "seizure" (*liqdu*).

Eeskhar or *éskhar* (above p. 79, note 1) is interpreted "red blood" (*dammu*) in the Vocabularies, *mânis* being "white blood" (*sarku*) and *muwas* "breath" (*pupukhdu*). *Eskhar* explains the origin of the Greek ἴχωρ (for ἴσχωρ), for which an Indo-European etymology has been sought in vain.

[1] Cf. in an unpublished text: AN-*as-sa istu* GÛ-GIG *khu-i-sa-wa-z wa-a-ku-e-en*, "and the gods taste (?) the flesh in the chaldron." Has *wâku* any connexion with *aku* (p. 54)?

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

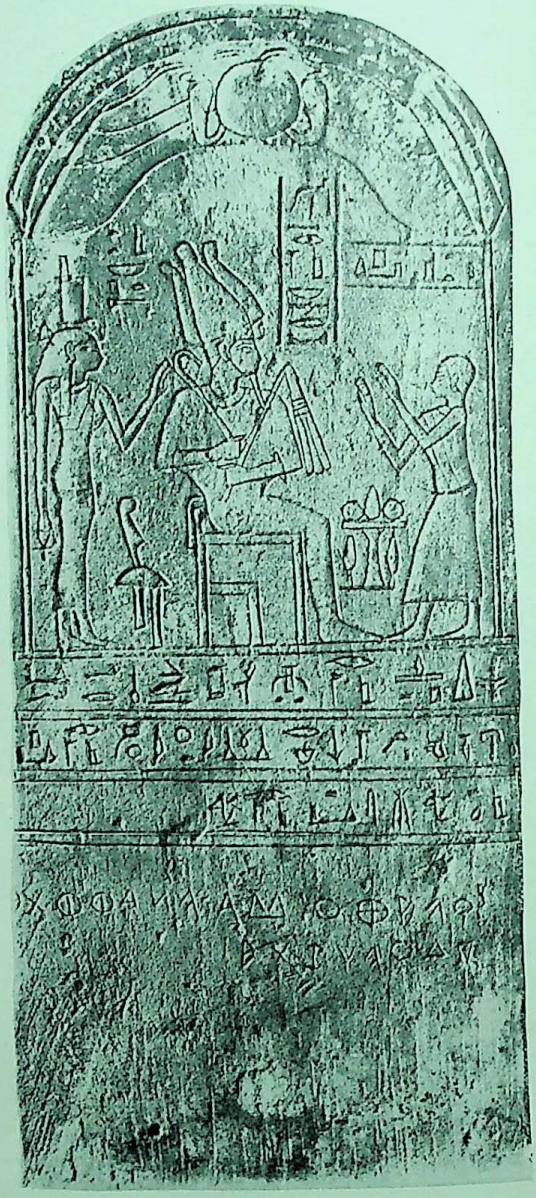
Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri



EGYPTO-KARIAN BILINGUAL STELE IN THE NICHOLSON MUSEUM, SYDNEY.

To face p. 85.]

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

An Egypto-Karian Bilingual Stele in the Nicholson Museum of the University of Sydney

By A. ROWE

(*With Plate.*)

Egyptian Texts

(*a*) *Over Deceased*

(*b*) *Before Osiris*

(*c*) *Before Isis*

(*d*) *Three Horizontal Lines*

(1)

(2)

(3)

Karian Text

(1)

(2)

Note.—For the sake of uniformity, the Egyptian hieroglyphical texts have been placed so as to read in the same direction. The Karian text is shown as it appears *in situ*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ONE of the most interesting and valuable of all the objects which were presented half a century ago by the late Sir Charles Nicholson to the University of Sydney, for the purpose of forming a nucleus of a "Museum of Antiquities", is a stele inscribed in two kinds of writing, Egyptian and Karian.

It was not until September of 1918 that I had an opportunity of examining this monument, and as its two inscriptions seemed at first glance to show certain important philological features, it was felt advisable to go fully into the matter, and the present paper contains the results of my investigations. By means of the kind help and advice of the Curator of the Museum, Professor W. J. Woodhouse, who has also read my manuscript and made many valuable suggestions for its improvement, I have been able to make these investigations much more complete than would have been possible without his aid; but it must be understood that I alone am responsible for the opinions expressed and the theories arrived at in this paper.[1]

From what can be gathered it appears that the slab originally came from Memphis, and was purchased by Sir Charles Nicholson in Egypt, whence it was conveyed by him to Europe, and there, to quote his own words, "although it was submitted to several distinguished philologists, no certain meaning could be attached to the obscure alphabetic character."[2] The date of the purchase has not been ascertained, but it must have been prior to 1870, the year in which the first published account of the object appears. This account, which is contained in the *Catalogue of the Museum of Antiquities of the Sydney University*, Sydney, 1870, p. 90, reads as follows: "Sepulchral Slab with a Bilingual Inscription.

[1] This is published by kind permission of the Sydney University authorities, to whom I am also greatly indebted for furnishing me with the photograph reproduced in this article, and for allowing me to inspect closely the stele and to copy its contents.

[2] Vide *Ægyptiaca—a Catalogue of Egyptian Antiquities in the Sydney University* (London, 1891), p. 141.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The upper portion of the Inscription (in hieroglyphics) is the ordinary funeral dedication for 'Isi' (*sic*) the son of 'Petisi' (*sic*), to Osiris. The lower inscription has not yet been deciphered, but the letters have been thought to show some affinity with the Early Phœnician."

Two years subsequently, when Professor Sayce was preparing his first work on the Karian language, Sir Charles Nicholson sent him from Sydney a squeeze of this tablet, the Karian text from which he incorporated in his paper. This paper was published the year following in the Transactions of the Royal Society of Literature.[1] Sayce laments the fact that the engraver had unfortunately spoilt the text from the Sydney stele, and it was not until 1886 that he was able, as he states, to "publish it accurately for the first time" in his monumental work, "The Karian Language and Inscriptions," which appeared in the *Transactions* of the Society of Biblical Archæology, vol. ix, pt. i, his paper having been previously read at a meeting of the Society on February 3, 1885. This last edition of the text, however, by no means presents a correct idea of the Karian inscription as it appears *in situ*, for on the stele itself the characters read from right to left, while in Sayce's copy they are placed in the reverse order; also, certain characters are incorrectly given, but this fault is excusable, as Sayce did not have the original monument to work from. It was in this second paper that a translation of the entire Egyptian inscription was first published, but as a facsimile of the hieroglyphs is not given, the reader is left in entire ignorance of the fact that the text contains many errors and peculiarities.[2] Sayce was evidently puzzled by the unusual appearance of the word RA-STA written under the name of Osiris, for he left it untranslated, his rendering of the sentence in which it appears being: "Said by Osiris, the lord of . . ." Dr. Birch supplied

[1] "The Karian Inscriptions": Trans. Roy. Soc. Lit., N.S., vol. x, pt. iii, 1873.

[2] The author makes no mention of this circumstance.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Sayce with the following very free version of the last three lines: "Act of homage to Osiris who dwells in the West, the Good Being, who has given sepulchral meals of bread and beer, oxen, geese, incense, linen, all things to the worthy Osirian Pet-Asi (Petisis), born of Tat-Osar (Taosiris)."

The next and final reference to the stele occurs in *Ægyptiaca*,[1] pp. 140–1, which was published five years after Sayce's last-mentioned article had appeared. In the former work the donor of the stele says he has now learnt from Professor Sayce that the "inscription probably commemorates in his native idiom, as well as in the popular form, one of the Greco-Asiatic mercenaries engaged in the service of the Psammetici during the eighth (*sic*) century B.C." It is quite evident Sir Charles Nicholson must have misunderstood Professor Sayce, for the article in the *Transactions* before quoted clearly shows that the latter scholar was well aware that the two inscriptions were not inscribed to the memory of the same person.

Having been able to examine closely the monument, the present writer is in a position to correct certain mistakes in detail which former scholars have made in connexion with both scripts, due, no doubt, to the fact that they had to work from a squeeze, and he is also able to point out some original errors in the Egyptian inscription. The hieroglyphic text and the vignettes are here published for the first time

The stele is formed of a slab of soft white limestone, and measures 28¾ inches in its extreme length by 12¼ inches in breadth. The Egyptian vignettes and texts occupy about 20 inches in depth from the top of the stele to the last line of hieroglyphs, thus originally leaving 8¾ inches of space, of which the first 3 inches were utilized by the Karian sculptor, the balance of 5¾ inches remaining uninscribed. As will be seen from the photograph, the Egyptian words under the vignettes are contained in three lines, the first two lines of which occupy the full breadth of the slab, while the third

[1] See footnote *supra*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

and last line, for some unaccountable reason, and in striking contrast to the Egyptian love of symmetry whereby every line of a sepulchral stele inscription was usually completed, suddenly leaves off about 4½ inches from the end. Both lines of the Karian inscription commence 1½ inches from the right side of the stone, from which end, as before-mentioned, the text is to be read, the first line extending to the full breadth of the object, and the second finishing about 5½ inches from the left side.

Taking into consideration the circumstance that so large a portion of the stele was unused by the Egyptian engraver, we are surely warranted in assuming that the monument was meant, from the first, to contain the two different writings we now see on it, and that therefore the Karian inscription is not merely a *graffito*. Also, the face of the whole of the slab is exactly on the same plane, and this proves that no Egyptian work had been obliterated to make room for the Karian characters. Some importance must be attached to the space left at the end of the last line of hieroglyphs, for it almost seems as if the sculptor of the Egyptian words thought that the Karian ones would follow on where his left off. All the above evidence, I submit, certainly shows that the two texts were cut at about the same time.

Now from the style of the Egyptian sculptured work on the monument I have no hesitation in dating this work to between 650–550 B.C.,[1] and the Karian inscription itself must also be attributed to this period, for it is quite likely, as Sayce has stated, that such inscription was made on behalf of one of the Karian mercenaries who were first imported into Egypt by

[1] It is certainly evident from the use of the epithet AMAKH (line 2 of the hieroglyphical text) that we are dealing with an Egyptian inscription of the Twenty-sixth Dynasty, for it was in the beginning of this era that the custom grew up of following the archaic style of the Early Empire texts. In these older texts the deceased was commonly termed AMAKH, i.e. "loyal follower".

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Psemthek I,[1] shortly after the rise of the Twenty-sixth Dynasty (i.e. after 664 B.C.).[2]

Immediately underneath the rounded top of the stone are depicted the vault of heaven and the winged solar disk, with pendant uræi, of the god Behudet. Below these objects are represented a male person with arms uplifted in act of adoration, standing before a table of offerings, and a seated Osiris wearing the plumed white crown, and holding the flail and crook; behind the god are the standard AMENTA, which is emblematic of the abode of the dead in the western hills, and the goddess Isis with her left arm uplifted and her right hand holding the symbol of life. The general outline of her headdress is that of the goddesses and queens of the Twenty-sixth Dynasty, e.g. that of Ankh-nes-nefer-ab-Ra.

Above the deceased is his name (*a*)[3] PEDA-AST[4] written in hieroglyphs; before the god the words, (*b*) "A prayer to Osiris, the lord of Ra-Sta", and in front of the goddess, (*c*) "Isis, lady of heaven." The three horizontal lines of Egyptian read, (1) "May give a royal offering Osiris, the governor of the Western Land, Unennefer; may he grant (2) the offerings which come forth at the voice—cakes, ale, oxen, geese, incense, garments, and things [all]—to the Osirian PEDA- (3) AST, born of TA-DA-ASAR."

The errors of the hieroglyphical text tend perhaps to show that the engraver of the inscription was a foreigner, and therefore possibly a Karian. First of all, in line (*a*) he writes

[1] Portion of a statue of Shep-en-Upt, the wife of Psemthek I, is preserved in the Sydney University Museum. Vide *Ægyptiaca*, p. 19, where the queen is erroneously described as the wife of "Psammetichus III—the Pharaoh-Hophra of the Bible".

[2] Herodotus (ii, 154) says that Amasis II (570 B.C.) founded a Karian camp or settlement at Memphis, and as this is where the stele came from, it is probable that the monument is to be assigned to this reign.

[3] The ensuing numbers and letters in brackets have reference to the same distinguishing signs placed before each line of text in the accompanying plate.

[4] The Πετησις or Πετισις of the Greek *graffiti* in Egypt.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the last portion of the deceased's name as -ASTET in error for -AST, which latter form he gives correctly in line (3). Line (*b*) contains a bad mistake; we get for RA-STA. Here the engraver has wrongly used for , and has also reversed the order of the first two signs in the group. We also see another mistake in line (*c*), where the name of Isis is spelt instead of . The position of the feather on the large standard in front of the goddess in the vignette should have been reversed; we find it placed accurately in the standard-sign in the first line of the horizontal inscription. In the second line appears for ; and the omission of the determinative after , and of "all" will be noted. The T forming part of the name of the deceased's father, [1] of course, equals TA, unless the sculptor, in keeping with the somewhat bad orthography of his work, has carelessly inserted a T in place of a P, in which case we should read PEDA-ASAR. The absence of "to the double of" is remarkable.

Professor Sayce [2] gives the following transliteration and translation of the Karian text: Ā-V-E-TH-O M-A-V-N-A-Ü-W-H(E) AI-D O-V-U-Z-H-E, "Avetho the Maunaüwian [3] and Ovuzian." He says that "Mavnaüw"

[1] The sculptor made a mistake in the course of engraving this determinative, for he first of all placed the left arm of the man in a downward position, but afterwards, realizing his error, obliterated the fault as best he could, and rectified matters by placing the arm in the usual uplifted position. This fact can quite easily be ascertained from the accompanying photograph.

[2] In *Karian Language*, pp. 145–6.

[3] A misprint for "Mavnaŭwian".

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

reminds one of the tribe of *Μαύνιται* at Olymos, but concerning the meaning of "Ovuz" he is silent.

Considering that Sayce's published copy was taken from a squeeze it must be allowed that it is a comparatively good one, in spite of the text being reversed, but from a close comparison of this copy with the Karian inscription on the stele I discovered that two signs had been incorrectly transcribed by him; these are both in the lower line. The first of such signs, to which he gives the provisional value of AI, is shown by him as , whereas on the stele I find that it is really , keeping the character here in the same position as it appears on the stele, that is to say, reading from right to left. We must, of course, read the latter character as *ō*[1]. The other of the two signs in question, the consonant *z*, depicted by Sayce as , is actually written thus .[2]

There was just enough room to add the last sign of the undoubted adjectival termination, , to the end word in the first line, for the E is slightly on the slant, being partly on the face and partly on the edge of the stone. The squeezing on of this character proves that it formed the end of a word, which fact is also substantiated by the similar ending of the last word in the inscription, which is likewise an adjective.

"ÄVETHO" may be a Karian name, or perhaps an Egyptian one assumed by a Karian and written with Karian characters. In the latter case we might possibly identify

[1] See the Karian signs in "The Formation of the Alphabet" Petrie (Brit. School of Arch. in Egypt, vol. iii), where the value of is given as *ō*. The inner curved line in the character on the stele is undoubtedly an engraver's error.

[2] This fact is clearer from the stone than from the photograph.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

it with some name like AF-THOTH.[1] Cf. "Manetho" from the supposed MA-EN-THOTH.

Although Sayce's suggested identification of "Mavnaüw" with the Olymos tribe may be correct it seems to me that a more probable reading is "the Memphite", because it does not need a big stretch of imagination to connect the word with Men-nefer, the Egyptian form of "Memphis". Now as the Karian (variants ,) really has the value of PH[2] (which sign would also be used by careless scribes for F or V), instead of U or W, as Sayce believed, the word in question should actually be read as "MAVNAPHPH", or, perhaps, "MAVNAFF," which is a closer approximation to "Men-nefer" than is the incorrect rendering "MAVNAÜW".

In Etruscan, to many characters of which certain Karian signs bear some resemblance, the value of or is PH or F. Compare also the Greek or , which, as Sayce himself states, is found in all the Greek alphabets, except those of Thêra, Mêlos, and Krete, with the value of PH. Evans[3] says that the in its archaic form recurs in the South Semitic series with the closely allied value of V (or W), and Gardiner,[4] in referring to the so-called additional letters of the

[1] As Thoth was the name of the Egyptian god of language, literature, etc., it is just the kind of name we should expect a foreign dragoman or an interpreter, such as Ävetho probably was, to choose when taking over an Egyptian appellation.

[2] Petrie, "Formation of the Alphabet," transliterates the Karian and by PH.

[3] *Scripta Minoa*, vol. i, p. 92.

[4] "Egyptian Origin of the Semitic Alphabet": Journ. Eg. Arch., vol. iii, Jan. 1916.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Greek alphabet, X, Φ, and Ψ, mentions that Pratorius had previously identified them with certain letters having very similar forms in the Ṣafa alphabet. The table in Gardiner's article bears out what Evans says, and clearly shows that the early Greek Φ or Φ (PH or F) was taken from a similar shaped character, ⦶, with the value of V[1] or W, which appears in all the four groups of the South Semitic alphabets, viz. Sabæan, Liḥyânite, Thamûdenic, and Ṣafâitic. This discovery was made, of course, long after Sayce had written his article on the Karian language. It is quite evident therefore that the symbol ⦶ on the stele was employed for a PH or F,[2] as the originators of the Karian alphabet must have obtained this letter from the same source as that from which the Greeks obtained their PH.

The words in Karian inscriptions are usually separated by small points, and it will be noticed that there are two of these placed after the name of the deceased, but for some reason or other the sculptor only used a single point to divide the two words in the second line, and this particular mark, being only a slight indentation in the stone, seems to have been inserted as an afterthought.

Sayce transliterates the X on the stele by H, whereas

[1] Petrie, *op. cit.*, equates the Sabæan ⦶ with "V".

[2] Although the true Karian F was F F or ∃ (Petrie, *op. cit.*), it is certain that in view of the phonetic similarity this consonant was sometimes represented by the sign generally used to indicate "PH". This would especially be the case if the sculptor were living in a foreign country and therefore not in everyday touch with the speech of his native country.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

according to Petrie[1] ᚼ is H and ᚷ KH; also, the value of ᛉ is given by the former as U, but Petrie's rendering is Y. The weight of evidence is strongly in favour of the latter identifications, and these I accept without question.

In view of the arguments put forth above, I consider the following to be a correct transliteration of the Karian text on the stele: Ä-V-E-TH-O M-A-V-N-A-F-F-KH-E Ō-D O-V-Y-Z-KH-E, i.e. "Af-Thoth (?), the Memphite and Ovyzian". ŌD, of course, is a conjunction.

I have been unable satisfactorily to identify the word "OVYZKHE", but, subtracting the adjectival ending -KHE, the root "OVYZ" is not unlike the name of the town of Ephesus. It would, indeed, be instructive to us if it could be proved that "OVYZIAN" is the Karianized form of "Ephesian", in which case we must doubtless understand that ĀVETHO was a Karian whose birthplace was in the above-mentioned Lydian town.

Sayce has shown us in his article how some of the Karian dragomans of the time bore two names, a Karian one and an Egyptian one, and also that the name Psemthek is apparently present in a Karian inscription from Abu-Simbel.[2] Such being the case my attempt to connect certain of the words written in Karian on the stele with Egyptian ones should not seem unreasonable.

[1] *Op. cit.*
[2] *Karian Language*, p. 134.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

MISCELLANEOUS COMMUNICATIONS

MOSES B. SAMUEL OF SAFED, A JEWISH KATIB IN DAMASCUS

In the April number, 1919, of this Journal (pp. 155 ff.) Mr. Jacob Mann published six poems by the above-mentioned Katib, which are of great interest. They tell us of persecutions from which "the people of the tribute" (אנשי המס, أهل الذمّة), i.e. Jews and Christians, had to suffer; further, how the poet was compelled to accompany his master, the Emir of Damascus, on a pilgrimage to Medinah and Mekkah, and thus had to adopt Islām. Whether Moses was able to return to his former religion, as Mann thinks, must be left undecided, since he would have then made himself liable to capital punishment. But he could have been a Jew in secret.

Mann has carefully edited and interpreted the text of the poems. But two questions have still to be discussed, viz. the time of these events and the religious persuasion of Moses, i.e. whether he was a Rabbanite or a Ḳaraite. As regards the time, Mann thinks that the MS. of the poems appears to be of the fourteenth century, but, unless we have an autograph before us, Moses could, of course, have lived much earlier. At any rate he must have lived, as Mann rightly remarks, in the post-Fatimid period. Mann finds two dates when such stringent laws against Jews and Christians were decreed, one in the year 1290 and the other in the year 1301. But Moses' time can be quite exactly ascertained. MS. Berlin 198 contains a collection of Ḳaraite hymns, and among them, on fol. 96, verso, an extract from the Diwan of Moses of Safed (see *Catalogue Steinschneider*, ii, 47: בשם אל עולם נעשה ונצליח נבתדי אלאן בתרתיב כראס נקל מן דיואן ר' משה הצפתי זקת אן אסתבשעוה בניר אכתיארה לברכה (sic!) זכרה. This extract contains, according to Steinschneider, a long poem about a calamity in the year

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

755 H. (1354), each strophe of which has as a superscription the name of a Biblical book, from which the fourth and last hemistich is taken. The last point renders it a certainty that the poem in MS. Berlin is identical with those edited by Mann.

Accordingly the events narrated by Moses took place about 1354 C.E. It is the time of the Mamluk Sultan aṣ-Ṣaliḥ Ṣalāḥ ad-Dīn Ṣāliḥ,[1] in whose reign indeed very strict rules were ordained against Christians and acts of violence were committed on them (see Weil, *Geschichte des Abbaṣidenchalifats in Egypten*, i, 498). Of course, these laws were applied also to the Jews. Mostly hit by them was Damascus, where the days of tranquillity under the Sultan al-Nāṣir and his governor Tengiz (1340) were followed by a time of chaotic rule under the prætorians of Emirs that were fighting each other.

The fact that Moses' poems were inserted into MS. Berlin 198, a collection of exclusively Ḳaraite hymns, also allays Mann's doubts in Moses' Ḳaraism. The poems edited by him certainly contain nothing Ḳaraitic, because there was no occasion for it, but neither is there anything anti-Ḳaraitic in them. Moreover, other Ḳaraite collectanea have also preserved some of Moses' liturgical compositions. They are, as far as known to me, as follows: (1) A piyyuṭ beginning מלכי שמע נא את ניבי, with the accr. משה צפתי, in Bodl. 2378, No. 19. (2) A piyyuṭ with the superscription לר׳ משה צפתי ז״ל, beginning רצה שיחי אדון רוחי, MS. Brit. Mus. 728, No. 107. (3) A piyyuṭ for Passover, beginning אודה צורי יה לבדו, with accr. משה צפתי חזק, MS. Brit. Mus. 729, i, No. 9. (4) A piyyuṭ for Sabbath Bo with the superscription לר׳ משה צפתי, commencing . . . לדי איש תם מלאך הכה, MS. Brit. Mus. 730, i, No. 16. Probably also the Seliḥa, beg. אנא י׳ כי אני עבדך, alphabetical with a subsequent verse commencing חוק ידי עבדך משהבן שמואל.

[1] I also think that under המלך the Caliph is not meant, as Mann maintains, but the Sultan.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

MS. Brit. Mus. 724, xvii, No. 17, emanates from him; likewise a poem in honour of the famous Ḳaraite philosopher Aaron b. Elijah (1300–60), his contemporary, beginning בבית אהרן תבורך הקהלה, with the accr. משה בן רבי שמואל[1] (printed in Aaron's *Keter Torah*, Eupatoria, 1866, behind the editor's Introduction).

Accordingly Moses b. Samuel was a Ḳaraite, having been at the same time the only representative of this sect in Palestine at that time. The Ḳaraites flourished in the Holy Land about 940–1060, but afterwards no name of importance is known from amongst them. The Ḳaraite traveller Samuel b. David found in Jerusalem in 1642 altogether twenty-seven of his fellow-sectaries (see Gurland, נגדי ישראל, i, 12); likewise small was their number also later in the eighteenth century (see l.c., 36, 48; *Jerusalem*, ed. Luncz, vi, 240; Hastings, *Ency. of Rel. and Ethics*, vii, 667*a*). The example of Moses shows now that the spiritual life of the Ḳaraites in Palestine was not entirely extinct even after their period of flourishing. Yet it is possible that Moses had raised himself to an intellectual height only through his stay in Damascus, where in the Middle Ages there existed a flourishing Ḳaraite community. At any rate Mann's publication is to be appreciated also in this direction, and it would be desirable that he should pay attention to the other poems of Moses b. Samuel still preserved.

SAMUEL POZNANSKI.

WARSAW.

KURU-PANCALA

Much has been written about the Kuru-Pañcālas and theories have been put forward about them, but it may be well to show what historical tradition discloses about them.

As pointed out in former papers,[2] in the Pūru or Paurava

[1] Similar acrostics are to be found also in some of the poems published by Mann (Nos. II and IV).

[2] JRAS. 1910, p. 21; 1914, pp. 283-4, 288-9.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

race arose the famous king Bharata, and his descendants were the Bharatas. One of them, Ajamīḍha, king of Hastināpura, divided his territories among his three sons and so formed the three kingdoms of Hastināpura, N. Pañcāla, and S. Pañcāla. Pañcāla was originally a nickname of certain princes of N. Pañcāla and in time superseded Krivi, the old name of that country. The names of the royal families were commonly extended to designate their peoples and countries.[1] Afterwards in the Hastināpura dynasty arose king Kuru,[2] and his descendants were the Kurus[3] or Kauravas. The Bharatas thus comprised the three families of the Kurus, N. Pañcālas and S. Pañcālas; the N. Pañcālas produced the two sub-families of the Sṛñjayas and Somakas, and the Kurus afterwards developed the sub-family of the Pāṇḍavas.

In the Pāṇḍavas' time Droṇa conquered Pañcāla, kept N. Pañcāla for himself, and transferred its king Drupada and his entourage to S. Pañcāla. With Drupada went the Sṛñjayas and Somakas. Pañcāla then comprised all the country from Ahicchattra to Kāmpilya and to the R. Chambal, N. Pañcāla being the portion north of the Ganges and S. Pañcāla that south of the river.[4]

When the Pāṇḍavas were victorious in the great Bhārata battle, Yudhiṣṭhira gained the Kuru throne, and he and his successors became kings of the Kurus.[5] So far the Kurus, the N. Pañcālas and S. Pañcālas were distinct.

His sixth successor is said to have abandoned Hastināpura, because it was carried away by the Ganges, and he moved to Kauśāmbī, which he made his capital.[6] The reason is absurd,

[1] Much as we speak of Rhodesia and the Rhodesians.

[2] His name has nothing to do with *Krivi*, which existed long before him.

[3] These Kurus have nothing to do with the Uttara Kurus. It was not uncommon for persons to have the same names as countries and peoples, cf. e.g. Kirāta, Pastyāvant, and Plakṣa in the Vedic Index, and also Aja, Vatsa, etc.

[4] MBh. i, *138*, 5507–16.

[5] MBh. xiv, *89*, 2679; xv, *37*, 1012; xvii, *1*, 8; etc.

[6] Vāyu *99*, 271. Matsya *50*, 78–9. My *Dynasties of the Kali Age*, pp. 5, 65.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

because, if that were the whole truth, he could have chosen some other town near by as his capital, and there was no necessity to move more than 300 miles south *across S. Pañcāla* to Kauśāmbī. Manifestly he abandoned all the Kuru territory in the northern part of the Ganges-Jumna doab, and there can be no doubt that that long move was not voluntary but was the result of severe pressure.

That there was such pressure is suggested by the early chapters of the Mahābhārata, which, though in ridiculously fabulous form, brahmanic on its very face, yet seem to be based on actual occurrences. The purport is this—there was a Nāga kingdom with Takṣaśilā as its capital, it came into direct conflict with Hastināpura in the reign of Yudhiṣṭhira's successor Parikṣit II, he was killed, and his son, Janamejaya III, defeated the Nāgas but made peace.[1] This suggests that the intervening Panjab kingdoms, the Śivis, Madras, Kaikeyas, Sauvīras, etc., which play so prominent a part in the epic, had fallen, and it is not improbable after the great slaughter of princes and kṣatriyas in the Bhārata battle. If so, Hastināpura was face to face with danger from the north-west.

Apart from this explanation, however, the fact remains of the abandonment of Hastināpura and the Kuru territory and the retreat to Kauśāmbī. That mixed up the Kurus with the S. Pañcālas, and the new kingdom became that of Kurus and Pañcālas, the united Kuru-Pañcāla nation.[2] It is that nation which is mentioned in the Brāhmaṇas and among whom the great Brāhmaṇas were composed.[3] That event took place rather more than a century after the great battle. It shows when and where those works were formed and fixes an upper limit for the period of their composition. The political conditions described above reveal why those books have so little to say about the Panjab nations that are so

[1] MBh. i, *43*, 1786 to *44*, 1807 ; *50*, 2007 to *58*, 2175.
[2] N. Pañcāla apparently continued to exist separately.
[3] Vedic India i, p. 165.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

prominent in the Mahābhārata, and the books corroborate the conditions.

This is the simple explanation of the united Kuru–Pañcālas. It elucidates the various points noticed under the words Kuru, Pañcāla, etc., in the Vedic Index. Historical tradition thus makes clear what brahmanical books leave in uncertainty.

F. E. PARGITER.

ROYAL ASIATIC SOCIETY

It is hoped to reopen the regular work of the Royal Asiatic Society, which has been interrupted by the move, by a reception to be held on March 30 in the new premises of the Society, 74 Grosvenor Street, W. 1. The Libraries will be open for students and for the loan of books immediately after Easter. The new house is a handsome and commodious building, with a comfortable lounge and Council room, a large lecture room, and library in which the books will be arranged according to the countries with which they deal. The work of re-cataloguing is in progress, and the Assistant Librarian will be constantly in attendance to get the books required by members. There is a silence room for students wishing to copy or collate books and manuscripts. It is hoped that the advantages offered by the new premises will not only make 74 Grosvenor Street a more frequent place of resort by our present members, but will lead to a large increase of membership, so that the Society, now approaching its hundredth anniversary, may be looked upon as the natural centre of Oriental studies and Oriental interests in London.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

NOTICES OF BOOKS

INTRODUCTORY SKETCH OF THE BANTU LANGUAGES. By ALICE WERNER. 346 pp. Kegan Paul, Trench, Trubner & Co. 7*s*. 6*d*.

This is an effort by an accomplished linguist and practised teacher to explain the intricacies of the grammar of the various Bantu languages. Specializing in East African languages, Miss Werner's study is mainly based on these, and it cannot be said that her task is made easier by the fact that she pays less attention to those spoken in West Africa, and very little indeed to those spoken in the central part of the Continent, which latter would have in many cases illustrated her points more clearly than Zulu, Nyanja, and Swahili. Naturally, the book deals with the spirit of the languages and not with the sound, consequently the author is quite justified in using Steer's simple spelling, instead of a complicated phonetic alphabet, the study of which would require a book for itself. The main difficulty, the various tenses which have no equivalent in English, is handled with great lucidity, and the chapter on word-building is especially to be commended as promising to be of the greatest use to translators by showing the flexibility of the Bantu tongues, which permits of the unlimited formation of new words for the expression of new ideas. Miss Werner depreciates speculations concerning the definition of the various noun classes, but cannot quite resist the temptation herself, and succumbs to their fascination.

For anyone who wants to acquire the general elements of Bantu grammar, or intends to learn some particular language belonging to this family, Miss Werner's study will be invaluable.

E. TORDAY.

Miss Werner asks us to draw attention to an erratum, on p. 59, l. 2, where for "labial" should be read "nasal".

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

STUDIES IN BIBLICAL PARALLELISM. Part I: Parallelism in Amos; by LOUIS I. NEWMAN. Part II: Parallelism in Isaiah, chapters 1–10; by WILLIAM POPPER. viii, 57–444 pp. University of California Press, Berkeley. August 6, 1918.

This book, which forms Nos. 2 and 3 of vol. i of the Semitic series of the University of California Publications (hence the curious pagination, which starts with p. 57), is an important and valuable contribution to the exegesis of the Bible. These two parts are in a way the outcome of lectures held at that University, and they show the high standard of qualification of the lecturers, and speak also highly for the class of students that attend these lectures. They are studies on a vast scale, undertaken for the purpose not only of showing that the prophetic portions of the Bible rest on a fundamental principle of internal parallelism, but they go much further, for on the strength of that principle the authors endeavour to interpret the Hebrew text, to smooth out obscurities and difficulties which have hitherto baffled the students of the Hebrew Bible. They are bold in the application of the parallelism, for not only do they not shrink from altering the words, but they go so far as to change the places of the verses so as to reconstruct the verse into a harmonious parallelism. In this process of reconstruction, of alteration, and modification they seek first for identical passages in other parts of the Bible or even in the writings of the same prophet, and with the means of these parallel passages new readings are substituted for the old ones. This, of course, is not higher criticism, but keeps within the limits of the lower criticism, which attempts the emendation of the text, through the removal of alleged scribes' errors and other paleographic reasons.

The fact that the prophets' utterances rest on a rhythmic balance of imagery which divides each verse into two parallel halves, in which the same thought found in the first half recurs slightly altered and varied in the second half, has been recognized long ago, and the authors are fully aware of the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

labours of previous scholars in the same direction. They are abreast of the literature connected with the modern interpretation of the Bible, and they are also fully aware of the attempt of applying a metrical system to the prophetic and poetic portions of the Bible. But they prefer to apply only parallelism for the elucidation of the text. On the other hand, they are enforcing that principle rather too rigidly, for after all the cantilation by the prophet when delivering his message allows for break of symmetry, and being carried away by his fervour the prophet may sometimes omit one half of that parallel. It would, therefore, be wrong to expect in every sentence a complete parallelism between the two sections. In his introduction Mr. Newman has extended his investigations over the whole field of ancient Eastern literature, and has carried his studies even down to a late period of Hebrew poetry. He has proved the system of parallelism prevailing almost in every one of these literatures. It is the transition stage between prose and rhyme, or metrical poetry, and it is the most fitting expression for that poetical vagueness and for the rhythmical flow of the language among Eastern writers and poets.

The authors have written a very elaborate commentary on the Book of Amos and upon the first ten chapters of Isaiah, apparently prolix but none the less necessary for elucidation of the various problems, and for the justification of their attempts at the reconstruction and alteration of the original Hebrew texts.

One more cause for it was the typographical difficulty, inasmuch as they were not able to introduce Hebrew type into the book. But in spite of it the book will not fail to attract the attention of the biblical scholar. It will be helpful in raising the difficulties even if it does not solve them all and showing, at any rate, the way in which some of them could be encompassed.

One can only express the hope that Professor Popper will not allow his commentary on Isaiah to remain a torso,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

restricted as it is now to the first ten chapters, but will complete the book, which, judging from his first part, will also be considered as a valuable contribution to the interpretation of the Bible. Save for the absence of the Hebrew type the book is beautifully printed, and a credit to the California University, under whose auspices it has been published.

M. GASTER.

THE NEW CHINA REVIEW. Edited by SAMUEL COOLING, M.A. Vol. I, No. 1. Hong Kong: Kelly & Walsh, Ltd. March, 1919.

With this number Mr. Cooling launches his *New China Review*, and steers into the broken waters of a Periodical adventure. But nothing venture nothing have, and the editor's good courage and cheerful outlook deserve both sympathy and practical support. For, as he says in his Foreword, "It will be admitted that for a magazine, first projected in England in September, to be actually issued in China in the succeeding March and under war conditions, shows that the work is done *con amore*; it also provides a hope that what has been begun, however imperfectly, in such stressful times, may look forward to a fine career in the better days that are to come."

Mr. Cooling has done his part, but, as Dr. Herbert Giles adds in "A few remarks", following the editor's Foreword, "the success of this enterprise is not wholly in Mr. Cooling's hands. He must be supported not only by ready contributors to its pages, but also by a long list of subscribers." And there, of course, is the rub.

The first number starts well with a total of 110 pages, comprising ten articles, besides the Editorial Preface, and Professor Giles's "Few Remarks", and presents a portrait of the late Edouard Chavannes as Frontispiece, and a reproduction of an etching of the Entrance to Silver Island Monastery

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

by Major W. Perceval Yetts, who also contributes "Taoist Tales".

Among the remaining articles, Dr. Morse recounts the curious vicissitudes of *A Short-lived Republic* of Formosa, a never well-known and now quite forgotten episode of 1895, in which during a fortnight a tragi-comedy played itself out on a stage set on the very brink of disaster—and just missed it.

Père Dore, S.J., gives us the first part of *Le grand pélérinage Bouddhique*. Mr. Cornaby contributes *Notes on the Chinese Drama and Ancient Choral Dances*, originally written as a reply to inquiries by Professor Ridgeway. Dr. H. Chatley writes on *Studies in Chinese Psychology*, and Mr. Christopher Irving provides an interesting Review, under the head of *Early Chinese Art*, of Professor Foucher's *Beginnings of Buddhist Art and other Essays*, translated by Dr. and Mrs. Thomas.

Such is the initial number of a Review to which all must wish well who care for the intellectual life of the Far East.

L. C. HOPKINS.

A SUMERO-BABYLONIAN SIGNLIST. . . . Compiled by SAMUEL A. B. MERCER, Ph.D., D.D., Professor of Hebrew at Western Theological Seminary, Chicago. Cloth; 11½ by 8¾ inches. New York: Columbia University Press. 1918.

An exceedingly useful book for those studying the earliest texts and stages of Babylonian inscriptions. The first portion, of 10 pp., gives the archaic (line-formed) signs, which are practically hieroglyphics, turned with the right-hand end downwards so as to show them as they were used by the Sumerian scribes of Babylonia. These are accompanied by the Assyrian forms, but the modest extent of the book has not allowed the author to add their meanings, which would not only have increased the interest, but also the value of

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the work. The second part gives the Sumerian signlist from Ur-Nina to the Neo-Babylonian period, and occupies 211 pp. In this the characters are given as written, and are accompanied by the Assyrian forms and values, without the meanings. Lists of numerals, weights and measures, and Assyrian signs (20 pp.) close the volume.

The list of authorities ("Select Bibliography") is very complete and will enable the lucky possessor of these works to control the comparisons, but references in certain special cases in the book itself would have added greatly to the value of the work. In the first section the system of turning the archaic signs with the right-hand side downwards seems not to have been carried out in every case, but this makes no real difficulty to the student, as he can easily detect these exceptions and set them right himself.

The numbers indicating the periods and districts of the various forms used will enable the student to refer them to their right period and province. It is a handy book, as complete as its limited scope allows, and in conjunction with the more detailed works of Amiaud and Mechinau, Thureau-Dangin, Scheil, and Barton, fills a gap in the field of Assyriological research.

T. G. PINCHES.

A GUIDE TO TAXILA. By Sir JOHN MARSHALL, Kt., C.I.E. Calcutta, 1918.

A GUIDE TO SĀÑCHĪ. By Sir JOHN MARSHALL, Kt., C.I.E. Calcutta, 1918.

During the last year two very useful guide-books have been brought out by Sir John Marshall, the Director-General of Archæology in India. They are based on the excavations and researches carried out by Sir John Marshall personally at Taxila and Sāñchī, of which the full details will be found in the annual reports of the Archæological Survey of India for several years past. These guide-books are intended to

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

be used by visitors to these sites; they are light and portable and may be studied with profit not only by those able to visit Taxila or Sāñchī, but by all persons interested in archæology who have not the leisure or the opportunity to study the detailed reports. All essential matters are dealt with, and with the assistance of these little books it is possible to form a very clear idea of the results of the systematic examination of these celebrated sites have been.

Taxila stands out as the first great Indian city which became known to Europeans, and also as one of those most celebrated in Buddhist legend. The situation is in the valley of the little Haro River, a tributary of the Indus, partly in the north-west corner of the Rāwalpindī District of the Panjāb and partly in the Hazāra District of the North-West Frontier Province. This valley is an undulating plain dotted with mounds, and before the commencement of the recent excavations there was little to be seen in it to suggest that the remains of three distinct cities lay hidden beneath its surface. The upper portions of a few Buddhist topes were visible; one of them split through the centre, locally known as the Chhīr-tōp or Split Tope, a witness to the misdirected zeal of former explorers, alone reminded the visitor that this almost deserted valley had once been the scene of human activity.

In this valley Sir J. Marshall has identified the remains of three distinct cities as well as of several important groups of Buddhist buildings. The three cities are known by their modern names as Bhiṛ (i.e. "the Mound"), the most southerly, Sirkap (or "the Severed Head"), rather more to the north, and at about a mile still further north, Sirsukh. The first-mentioned, Bhiṛ, is considered by Sir J. Marshall to be the earliest occupied, and to go back to the period previous to the Greek and Saka occupation. This town awaits complete excavation, and is not described in the work under notice, which is concerned principally with Sirkap and Sirsukh, and with certain of the more important stūpas and monasteries

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

outside their walls. Sirkap is considered on the evidence of style and archæological finds to be the capital of the Greek and Saka–Pahlava period, and Sirsukh of the Kushan period. The principal religious buildings excavated are the Dharmarājika Stūpa (the Split Tope mentioned above) and the adjoining monastery; the temple at Jaṇḍiāl, which Sir J. Marshall believes to have been devoted to Zoroastrian worship; the monasteries and stūpas of Mohṛā Morādū and Jauliāñ on the ridge east of Sirsukh; and the very conspicuous Bhallar Stūpa, which, as I remember, is visible on the high ground to the north from the southern side of the valley. Mohṛā Morādū and Jauliāñ are exceptionally well preserved, and some good sculpture is still in situ. Sir J. Marshall ascribes the original building of the Mohṛā Morādū Monastery to about the close of the second century A.D. If this is the case it must be supposed that the excellent statue of a Bodhisattva (pl. xxiv) is earlier than the building. It may be added that judging from the long hair and the remains apparently of a water-vase below the left arm, this figure may be considered to represent Maitrēya rather than Gautama.

The towns of Sirkap and Sirsukh have been the scenes of the principal excavations, and in each case a considerable part of the outer walls and of the buildings has been laid bare. In Sirkap the most interesting discoveries are the large Buddhist apsidal Chaitya Hall and the elaborate palace built perhaps in the time of the Saka kings, in which Sir J. Marshall finds a strong resemblance to the Assyrian palaces of Mesopotamia. Here, too, some Hellenistic work of great value has been discovered. The most important is the silver repoussé head of Dionysus, figured in the frontispiece. This Sir J. Marshall considers the finest piece of Hellenistic work yet found in India. The bronze statuette of Harpocrates, as a child with a finger to his lips (pl. xv), is also very fine work.

Sirsukh, the latest of the three cities supposed to have been built by the early Kushans, possibly by Kanishka,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

and destroyed in one of the Hun invasions about the fifth century, has not been so completely examined as Sirkap, as a considerable number of the most prominent mounds are covered by shrines, graveyards, or modern villages. Enough has been discovered to show its later character.

The Taxila known in Alexander's time, and the subject of so many Buddhist Jātakas, must evidently be identified with the earliest town, Bhir, and the result of further excavations on this site may be looked forward to as likely to afford much information as to the conditions prevailing at the earliest period of occupation.

The remains of the Buddhist buildings at Sāñchī form a remarkable contrast to those at Taxila. Here there was no great capital of ancient renown nor was the site hallowed, like those at Bodh-Gazā, Sārnāth, and Barāhat, by an intimate association with the life of Buddha. The Sāñchī Stūpas owe their existence to the neighbourhood of the once populous but nearly forgotten town of Vidēśā (Bēsnagar) near the modern town of Bhīlsa in Bhōpāl, and the Sāñchī remains have been often alluded to under the name of this town which is several miles away from the village of Sāñchī. Buddhist legend ignores them, and yet, as Sir J. Marshall points out in this manual, they are the finest examples now extant of early Buddhist art, and from the time when they first became known have attracted the attention of European investigators. The principal authority on them has hitherto been Cunningham's *Bhilsa Topes*, published in 1854. General Maisey, who made an examination of the ruins in 1849–51, published a work entitled *Sanchi and its Remains* in 1892. This is of great value, as it contains a reproduction of his original drawings of the sculptures made at the time of his first examination of the site, although his views as to their Mithraic origin cannot be accepted in view of the results of modern research. Earlier explorations from 1818 onwards had not been very profitable, and had led to much damage to the monuments. No attempt at preservation

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

or protection was however made till 1881, and it was not till 1912 that this task was undertaken by the Archæological Survey, under the direction of Sir John Marshall. The results of this work have been described in the Reports of the Archæological Survey, especially that for the year 1913–14, and are succinctly summed up in the guide-book now under consideration, published in 1918, a work which supplies a great desideratum for students and travellers.

Up to 1912 visitors to Sāñchī could see nothing practically but the great Stūpa, and although other stūpas and buildings in the group had been discovered by Sir A. Cunningham, they had never been excavated, and very few fragments of masonry were visible above the debris with which they were covered. The great work carried out by Sir J. Marshall comprises: (1) the clearing of the whole site down to the rock on the south side of the hill and down to the ground-level of the existing buildings on the east side, although there are further remains of monasteries at a lower level not yet touched. (2) The complete excavation of the ground round the great Stūpa, and its repair and restoration where possible. (3) The complete excavation of Stūpa No. 3 (shown as restored in pl. ix), the reconstruction of its ruined dome, the re-erection of its fallen gateway, with its sculpture (the only *tōrana* at Sāñchī in addition to the four of the great Stūpa), and the restoration of the staircase and of the balustrade of the plinth. (4) The recovery of several interesting sculptures and other fragments from the balustrade of Stūpa No. 2, which stands further down the hill at some distance from the remainder of the group (5) The conservation of several temples, especially No. 17, a chaitya temple with semicircular apex, which Sir John Marshall dates about A.D. 650, the little Gupta temple, No. 18, and the mediaeval temple (No. 45), ascribed to the tenth or eleventh centuries, which is certainly the most recent building on the Sāñchī Hill. The above are the principal points to which attention is drawn, although the list is by no means complete.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Perhaps the most important result of Sir J. Marshall's discoveries is the determination of the date of the Stūpas and of the sculptures on the gateways. The discovery that the original stūpa, built by Aśōka, was not the great Stūpa as we now see it but a much smaller structure of brick, built of bricks of the size and style of those used in similar buildings of the Maurya period, and that this formed the core round which the present building was constructed about a hundred years later, puts off the erection of the four great gateways and the execution of their sculptures to the latter part of the first century B.C., and that of the gateway of Stūpa No. 3 to the first century A.D. The sculptures on the balustrades of Stūpa No. 2 are assigned to an earlier period than those of the great Stūpa. These considerations are of great importance in connexion with the history of Indian art. Sir John Marshall has compressed into these little volumes the result of a long period of investigation and inquiry, and there can be no doubt as to their value.

M. LONGWORTH DAMES.

MAHARANA SĀNGĀ, THE HINDUPAT, THE LAST GREAT LEADER OF THE RAJPUT RACE. By HAR BILAS SARDA, M.R.A.S. Ajmer, 1918.

This volume, as the author informs his readers, is the second of a series of monographs relating the lives of the great men of Rājputāna who have made their mark on the history of India. It is much better than the earlier volume dealing with Mahārāna Kumbha, published in 1917, and may be heartily commended. An index has been provided. The author has made use of much unpublished manuscript material in addition to the printed books, and his frontispiece offers an interesting portrait of his hero. Rānā Sanga, or Sangrām Singh, was almost exactly of the same age as his victorious rival, Bābur, who won the decisive battle of Khānnu in March, 1527. The Rānā survived his wounds,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

and two years later was poisoned by his ministers. The authorities differ as to the exact date of his death. The author spells the name Sāngā, with long vowels, which may, perhaps, represent the local pronunciation. Other people write Sanga, with short vowels.

A correction of some importance concerns the biography of Mīrā or Mīran Bāī, the famous poet princess. She was not the consort of Rānā Kumbha, as stated by Tod, who has been followed by Grierson and other authors. Her husband was Prince Bhojrāj, to whom she was married in Samvat 1573 = A.D. 1516, long after the death of Kumbha, who was killed in Samvat 1524 = A.D. 1467. The lady, who was born about A.D. 1490, died at Dwarka in Kāṭhiāwāṛ in A.D. 1546 = Samvat 1603. The account of her life, given in section 20 of Sir George Grierson's treatise, *The Modern Literary History of Hindustān* (JASB. part i, for 1888, special number) consequently requires considerable correction

The author, I think, is mistaken in asserting that the Chagatai Turks, before their conversion to Islam, were Buddhists. So far as I know they were Shamanists, followers of the vague Mongolian magic practices.

The author's success in the preparation of the volume now noticed justifies him in proceeding with the series as designed.

V. A. S.

CORPORATE LIFE IN ANCIENT INDIA. By RAMESH CHANDRA MAJUMDAR, M.A. Calcutta, 1918.

LOCAL GOVERNMENT IN ANCIENT INDIA. By RADHAKUMUD MOOKERJI, M.A., Ph.D. Oxford : Clarendon Press, 1919.

These two books cover almost the same ground, both dealing with corporate life in ancient India, the title of the first describing its scope rightly, while the second has assumed too ambitious a title.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Corporate activities manifested themselves in trade and industry, in popular assemblies from the village council upwards, in religious bodies, and in the manifold development of caste. Mr. Majumdar deals with all these subjects under the heads of economic, political, religious, and social life. Dr. Mookerji treats them according to their organization as guilds, etc., their functions, administrative, judicial, and municipal, and their constitution, with special notice of some important corporations and public institutions. Both base themselves on much the same materials, drawn from Sanskrit and Buddhist literature and from inscriptions; and both give good accounts of the various forms in which corporate life existed. But when they deal with what may be called the constitutional history of those forms, the two books differ widely.

Mr. Majumdar seeks to explain his subjects as Indian problems, without bringing them into too close comparison with their English counterparts. Dr. Mookerji's treatment is less satisfactory. Thus his title "local government" may hold good for large popular councils where they existed, but certainly does not apply to all the other corporate activities, social, economic, and religious. He also lays down the dictum, "The truth is that India is fundamentally one physically and culturally" (p. xii)—an assertion that requires qualifications at the present day and is absolutely wrong when applied to ancient times, and that vitiates the whole of his treatment. He also remarks with disapproval, "Others again have sought to interpret and appraise Indian culture in terms of the fundamental concepts of Western social progress and civilization" (p. xiii). If he does not himself do that ostensibly, yet he does not escape that error, for he admits, "I have been driven to the necessity of using, for instance, such familiar terms of Western political experience as guilds (craft-guilds and merchant-guilds), partnerships, municipalities, and the like, but they do not always imply precisely corresponding institutions in Indian politics with

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

an exact identity of structure and functions" (p. xiv). Now there was no such necessity, because he could have expressed himself in other words. This preference for inexact Western terms has blurred the differences that he acknowledges, and he has even needlessly indulged in other Western terms, such as "sanitation", "administration of the Poor Law", "ranchmen" (for those who raised cattle), with the result that Indian institutions are presented in what is hardly their true appearance.

Mr. Majumdar on the whole treats his subjects chronologically, tracing their nature and modifications as far as possible with regard to historical sequence. But Dr. Mookerji throws historical consistency aside. He points out "that the evidence derived from South Indian inscriptions is far more copious and elaborate than that from the northern"; hence, the northern evidence being deficient, he adds, "The gaps and deficiencies of the northern evidence are, however, supplied and made good by the southern" (p. 147). Accordingly he says: "Another point requiring mention is that in citing South Indian evidence I have had reasons to depart from the chronological limits of the ancient period of Indian history and to bring within its purview certain passages of what is generally regarded as the mediaeval period of that history" (p. xv). The northern evidence begins with the Vedas (which he calls eternal documents! p. 35), and closes much earlier than the southern evidence is available, which begins about the ninth century A.D. (p. xvi). Also there is much difference between the Aryan north and the Dravidian south. To ignore the historical and ethnic differences and lump the two classes of evidence together is unjustifiable and misleading.

Both authors speak of the *popular* assemblies or councils as "democratic", but the constitutions do not warrant that description. It is highly improbable that the lower classes ever had elective power along with the upper classes, especially after the brahmans established their theories

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

about the degradation of the lower castes. Even supposing, however, that the people generally did elect the members of those assemblies, the rules that defined the qualifications of members required a knowledge of sacred and legal books that could rarely have been found outside the brahmans, and so must have given the brahmans an assured preponderance in those assemblies. Brahmanic claims and real democracy would have been a strange couple.

This brings us to a subject of essential importance. Mr. Majumdar treats of the castes historically, and offers evidence and makes many sound comments about them, and especially about the brahmans and their claims, though he has hardly scrutinized popular corporate life with reference thereto. Dr. Mookerji practically ignores this subject, and a perusal of his pages would rather suggest that caste had little bearing on such popular life. This subject and possible differences between Aryan and Dravidian require more elucidation. It seems that the northern evidence of marked corporate activities is most copious before brahmanic power became supreme (both authors drawing largely from Buddhist sources), and fails about the time when Brahmanism finally established its sway in North India, and similar coincidences seem discernible in South India. This comment is not put forward as a definite assertion, but to suggest a line of further investigation.

Both authors quote Sanskrit passages, and those in Mr. Majumdar's book are not free from mistakes, but those in Dr. Mookerji's book contain many errors; thus on p. 117, in one note of four lines, there are three errors. Mr. Majumdar's book has the serious defect that it has no index. Dr. Mookerji's book has been printed at the Clarendon Press and possesses all the perfections of the products of that Press (except those errors), and it has received a too commendatory foreword from Lord Crewe. Mr. Majumdar' book was printed at Calcutta and lacks all those outward advantages; nevertheless, it is certainly the better and more trustworthy

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

treatise, written more sanely and with no political flavour, such as is perceptible in the other book.

F. E. P.

THE GENERAL PRINCIPLES OF HINDU JURISPRUDENCE. By PRIYANATH SEN, M.A., D.L. Published by the University of Calcutta. 1918.

This book contains the Tagore Law Lectures delivered in 1909, which have at length, after serious mishaps, been published nine years after the author's death. It is not customary to review law books in this Journal, but this volume deserves an exception because it deals with and expounds the principles that form the basis of Hindu jurisprudence, modern decisions being noticed only in so far as they affect those principles. The various departments are handled in turn, as ownership, transfer, prescription, succession, parental and marital relationships, contract, torts, etc. The work is an excellent exposition of Hindu principles, written with insight and lucidly, and it is conducted in at times a rather too appreciative spirit.

F. E. P.

SHIVAJI AND HIS TIMES. By Professor JADUNATH SARKAR, Indian Educational Service. pp. 508. Calcutta: Sarker & Sons; London: Luzac & Co. 1919. Price 10s.

The reputation of Professor Jadunath Sarkar as a sound critical historian which was established some years ago by the early volumes of his *History of Aurangzīb*, still incomplete, will be confirmed and extended by his new volume on Shivājī or Sivājī, the famous Marāthā chieftain.

The author is fully justified in his assertion that "a new and critical study of Shivājī's life and character has long been due", much material having accumulated since Grant Duff published his standard *History of the Mahrattas* in 1826,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

nearly a century ago. The silence of the author's preface, dated in April, 1919, concerning the first volume of *A History of the Mārātha People*, by Messrs. Kincaid & Parasnis, published in 1918, amounts to a tacit condemnation of that partisan book.

Although it is true that Professor Sarkar's treatment of the thorny subject of Sivājī will enhance his reputation with dispassionate readers, it will have a different effect upon the ardent admirers of the creator of the Marāthā nation, and may be expected to goad them to fury. Indeed, angry criticism has begun already. The professor, an Eastern Hindu, detached from the influences which mould opinions in Western India, does not mince his words. In justification of the minute detail and considerable length of his treatise he observes that: "From the purely literary point of view the book would have gained by being made shorter. But so many false legends about Shivaji are current in our country and the Shivaji myth is developing so fast (attended at times with the fabrication of documents) that I have considered it necessary in the interests of historical truth to give every fact, however small, about him that has been ascertained on unimpeachable evidence, and to discuss the probabilities of the others."

The critical Bibliography (pp. 500–507) is still more outspoken. The author reviews all the sources, Marāthī, Hindī, Persian, English, and Portuguese, giving first place to the English records as being "extremely valuable", and "absolutely contemporary with the events described and preserved without any change or garbling". On the other hand, he has a poor opinion of nearly all the Marāthī books. An alleged old chronicle, known as the *Mahābleshwar Bakhur* and published by Mr. Parasnis, is roundly denounced as being "full of palpable historical errors and deliberate fabrications", probably the result of the efforts of the Rājā of Sātāra in 1840. Few people are in a position to form a well-founded judgment on that proposition. The absence of an index

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

is a serious deficit in Professor Sarkar's book, which should be remedied in the next edition.

So much may suffice concerning the author's work regarded as a conscientious presentation of recorded facts. A few words may be devoted to his frank expression of opinion on certain matters concerning which much controversy has been aroused. He affirms boldly and truly that: "the acquisition of Jaoli (Jāoli) was the result of deliberate murder and organized treachery on the part of Shivaji. His power was then in its infancy, and he could not afford to be scrupulous in the choice of the means of strengthening himself. . . . The only redeeming feature of this dark episode in his life is that the crime was not aggravated by hypocrisy. All his old Hindu biographers are agreed that it was an act of murder for personal gain, and not a human sacrifice needed in the cause of religion. Even Shivaji never pretended that the murder of the three Mores was prompted by a desire to found a 'Hindu *swarāj*'.

"This last touch of infamy it has been left to the present generation to add . . . none of the genuine old historians of Shiva could anticipate that this line of defence would be adopted by the twentieth century admirers of the national hero; they have called the murder a murder. It is pitiful to find Mr. Kincaid trying to persuade himself and the public that his hero is entitled to the 'benefit of the doubt'. There is no doubt."

Professor Sarkar gives a good account of the assassination of Afzal Khān, but his acceptance of the Marāthā notion that the Bījāpur general first tried to stab Sivājī seems to be inconsistent with the known facts. The author appears to be right in differing from Ranade, and in holding that the great raid on the far south was a "campaign of plunder", not an operation of high policy. He quotes a Madras official record to prove that the whole of the Carnatic was "peeled to the bones".

Professor Sarkar's bold and deliberately provocative book

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

merits the closest study. Critics who may dispute his statements of fact or controvert his opinions will find difficulty in confuting an opponent so well equipped with first-hand knowledge.

VINCENT A. SMITH.

NOTE ON THE HISTORY OF EL-YEMEN

The Life of the imam el Qasim (B.M., Or. 3329) quotes largely from the sayyid Ahmed ibn Muhammad ibn Salāḥ esh Sharafi, who is not mentioned by Brockelmann. The Life attributes to him the following books :—

شرح البسامة الصغرى سيرة اهل البيت

شرح الاساس الكبير شرح الاساس الصغير

This information is confirmed by the Buriat ul Murid (B.M., Or. 3719).

The Life of Qasim attributes to Ahmed the verse :—

"To him who tells of what happened in Muda' and Thula
I say: This was not the deed of man."

This verse is quoted in a MS., of which Edinburgh University possesses a modern copy, as the work of the author. This MS. is only the second part of a book, and has no title, but as it tells the history of Qasim and his son Muayyad billah it may be presumed to be the conclusion of the سيرة اهل البيت.

A. S. TUTTON.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REPORT OF THE JOINT SESSION of the Royal Asiatic Society, Société Asiatique, American Oriental Society, and Scuola Orientale, Reale Università di Roma, September 3–6, 1919

IN accordance with the agreements concluded between the above-named Societies and published in the Journal of the Royal Asiatic Society (1917, pp. 186–7), *Journal Asiatique* (1918, pp. 168–78), Journal of the American Oriental Society (1918, vol. xxxviii, pp. 310–17) a Joint Session was held in the rooms of the Royal Asiatic Society on Wednesday to Saturday, September 3–6, 1919. The arrangements had been made by the Standing Committee, acting under the authority of the Council of the Society and in correspondence with the allied institutions. The following is a skeleton of the programme :—

Sept. 3. 11–12.30. Reception.
12.30. Joint Meeting of the Standing Committees of the Societies.
2.30–4.30. Plenary Meeting.

Sept. 4. 10.30–12.30. Sectional Meetings, the Sections being designated respectively: I. The Near East, Persia, and Islam. II. The Indian Sphere. III. Central Asia and the Far East.
2.30–4.30. Visit to the Oriental Religions Rooms in the British Museum.

Sept. 5. 10.30–12.30. Sectional Meetings.
2.30–4.30. Visit to the School of Oriental Studies.
5. Joint Meeting of the Standing Committees of the Societies.

Sept. 6. 10.30. Joint Meeting of the Standing Committees of the Societies.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

11–12.30. Plenary Meeting, Discussions and Resolutions.
2.30–4.30. Visit to Kew Gardens.
7.30 for 7.45. Banquet at the Imperial Restaurant, Regent Street.

The following is a list of participating Members of the French and American Societies and of Members of the Royal Asiatic Society announced from abroad :—

SOCIÉTÉ ASIATIQUE

M. Émile Senart, President.
M. Anesaki.
M. J. Bacot.
M. R. Basset.
M. P. Boyer.
M. Clermont-Ganneau.
M. Henri Cordier (and Mme. Cordier).
M. A. Danon (and M. Vitali Danon).
M. Dautremer.
M. Finot.
M. Gaudefroy-Demombynes.
Miss Alice Getty.
Mlle. Suzanne Karpelès.
M. Sylvain Lévi.
Mme. Denise le Lasseur.
M. L. Massignon.
M. A. Moret.
M. Pelliot.
M. J. Roeské (and Mme. Roeské).
M. D. Sidersky (and Mme. Sidersky).
M. Fr. Thureau-Dangin.

AMERICAN ORIENTAL SOCIETY

Professor J. H. Breasted (ex-President).
Professor J. H. Woods (representing the President).
Professor A. T. Clay.
Professor W. H. Worrell.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ROYAL ASIATIC SOCIETY

Dr. G. G. Furlani (Italy).
Professor Sten Konow and Fru Konow (Norway).
Professor E. Naville (Switzerland).
Professor J. Ph. Vogel and Mme. Vogel (Holland).

RECEPTION

A large company was present at the opening of the Session on September 3, at 11 a.m. In the regretted absence of the President, Lord Reay, and the Director, Sir Mortimer Durand, the chair was taken by SIR CHARLES LYALL, Vice-President, who said :—

LADIES AND GENTLEMEN,—

I stand here as an unworthy substitute for our President, Lord Reay, who, greatly to his regret and ours, is unable through ill-health to be present on this auspicious occasion. He has, however, sent me a letter, which I will read to you.

LAIDLAWSTIEL, GALASHIELS.
September, 1919.

MON CHER PRÉSIDENT,—Je regrette infiniment ne pouvoir me rendre à la Session des Orientalistes, mais mon état infirme rend tout déplacement difficile.

Nos Collègues du Continent sont sûr de trouver un accueil cordial de la part de la Royal Asiatic Society, qui est bien heureuse de pouvoir leur souhaiter la bienvenue. Elle est convaincue qu'il y a un vaste champ ouvert aux études des Orientalistes. Les rapports avec l'Orient sont de plus en plus intimes. Pour une appréciation réciproque une enquête continuelle est nécessaire dirigée par des savants qui se consacrent à la solution des problèmes que nous trouvons en Orient. Si une Ligue des Nations est appelée à faire disparaître les causes de différends internationaux, la Ligue des Orientalistes contribue à dissiper des préjudices qui sont le résultat de l'ignorance. Le bolshevisme qui menace l'Orient et l'Occident nous oblige à redoubler nos efforts pour établir l'entente entre l'Orient

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

et l'Occident, tous deux menacés par ce flot sanguinaire d'anarchie. Avec la bénédiction de Dieu nos études pourront contribuer à donner des garanties de paix dans l'époque de restauration que nous venons d'inaugurer. Nos travaux forment un échelon entre ceux de nos prédécesseurs et ceux des générations futures.

La Session exercera, j'en suis sûr, une influence salutaire sur la reprise de nos recherches en leur donnant une direction qui augmentera leur valeur.

Avec mon meilleur souvenir à nos collègues et les assurances de ma cordiale amitié.

REAY.

The last time the triennial International Congress of Orientalists assembled was at Athens in 1912. A meeting was to have taken place at Oxford in 1915, but the War made it impossible. The great catastrophe of the War has overthrown many other things besides empires. During its continuance study was impossible. Now, with the advent of Peace, is the epoch of reconstruction, and this, in Oriental Studies in the West, is the inaugural meeting for the establishment of fresh effort.

The proposal for this reunion, as you have no doubt read in the papers published in the *Journal Asiatique* and the *Journal of the Royal Asiatic Society*, came to us from M. Senart, whom we rejoice to welcome here to-day. It was his view that the triennial Congresses of Orientalists had become rather occasions of entertainment and amusement than serious reunions for the purpose of a review of progress achieved and plans for future work in common, and that it was advisable that Orientalists should meet more frequently for the purpose of keeping in touch with one another, and considering the plans most likely to advance the cause of Oriental research among the nations which the War has brought together in a bond of the closest friendship and common aspirations. These representations, as you have

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

seen, were warmly received by the Royal Asiatic Society, and the present gathering is the result.

We are all most happy to welcome you here; and we trust that our discussions will be fruitful and full of promise for future work in common.

Among the changes wrought by the War is the severance from the Turkish Empire of most of its outlying provinces, and, contemporaneously, the entry of India as a nation upon the field of politics. It is not my business to discuss these two great political facts, but the former opens to scientific and archæological research vast tracts hitherto in a great measure closed; and the latter makes it more than ever the duty of European students to endeavour to realize the true nature of Indian mind, thought, and aspiration, and to trace and record the history of progress in that great country before change has obliterated all the salient features of its past. "The unchanging East!" Never was a less accurate phrase put forth among the commonplaces of journalism. My own near contact with the East, in India, dates from fifty-two years ago. I left it after thirty-one years spent in the midst of its peoples, in an endeavour to realize their needs and natures. Now twenty-one more years have passed since I left it, and I feel that any judgment I may pass on questions now pressing for solution there is almost entirely out of date. No doubt the same is the case with other fields of study in the East, even Arabia, the land where the conditions of climate and physical features make the life of the people subject to a standard which seems to present little variation from age to age. Yet there also, in the Arab renaissance, there is a wonderful change setting in, the end of which none of us can foresee.

Well, ladies and gentlemen, I have only again to wish you a cordial welcome, and to express a hope that your visit here may be pleasant and profitable.

In gracefully acknowledging the welcome M. Émile Senart, President of the Société Asiatique, stated the reasons which

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

led him to put forward the proposal for a federation of Asiatic Societies in the Allied countries, and dwelt upon the opportunities for fruitful co-operation.

On behalf of the American Oriental Society PROFESSOR J. H. BREASTED (ex-President) and PROFESSOR J. H. WOODS (representing PROFESSOR LANMAN) conveyed the good wishes of their Society for the success of the gathering, which had the hearty concurrence of their Society. Professor Woods mentioned that, having been resident in Paris while the plan was under consideration, he had been a witness of the enthusiasm which had attended its inception.

On behalf of Italy DR. GIUSEPPE FURLANI made a cordial response.

MR. F. W. THOMAS, in recommending the programme to the attention of the gathering, dwelt upon the difficulties of time and distance which had rendered it anything but concerted. He referred to the large number of eminent savants representing the French Society ; America also, though the absence of Professor Lanman through illness was greatly to be deplored, had sent a number of distinguished scholars, while Italy, in spite of the unfortunate detention of the Principe di Teano, its officially nominated delegate, had nevertheless furnished a spokesman.

After the Reception a joint meeting of the Standing Committees of its Societies was held, M. SENART in the chair, and various projects for combined literary effort were made the subject of a preliminary discussion.

PLENARY MEETINGS

The afternoon meeting was devoted to the reading of selected papers having a special interest or covering a wide field. There was no discussion, but M. SENART, who was in the chair, expressed his acknowledgments to the several speakers. The following are abstracts of the papers read :—

1. SIR CHARLES LYALL : *Some Recent Editions of Old Arabic Poetry.*—Sir Charles Lyall drew attention to the important

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

work which, since the date of the last Congress of Orientalists in 1912, had been carried out in England in the publication of hitherto unedited texts of ancient Arabic poetry. In this, as in other things, the War had had a disturbing and delaying effect. In 1913 the Gibb Trustees published the *Dīwāns* of 'Abīd b. al-Abraṣ and 'Āmir b. aṭ-Ṭufail, the former one of the oldest poets of whom we have remains, and the latter a contemporary of the Prophet. But for the outbreak of war the same series would have included the *Dīwāns* of Ṭufail al-Ghanawī and aṭ-Ṭirimmāḥ, the former pre-Islamic, a master in the description of horses, the latter a poet of the first century of Islam. In both cases the text, edited by Mr. Krenkow, was in print, but the rest of the edition could not be completed owing to War delays. Aṭ-Ṭirimmāḥ's *Dīwān* is one of the most curious productions of this class of literature; the poet, a man of the tribe of Ṭayyi', was for some time a schoolmaster at Bamm in Southern Persia, and was a townsman all his life; but his poems throughout ape the Beduin manner, and use, often in amusing misapplications, the idioms appropriate to the desert. He is essentially an imitator and a copyist; but the confidence with which he utilizes the material of others, sometimes in the most incongruous combinations, affords us a measure by which we may judge the originality of the older poetry which he attempted to rival.

Then we have to thank the devoted labour of Mr. Macartney for the *editio princeps* of the *Dīwān* of Dhu-r-Rummah, issued this year by the Cambridge University Press, a splendid piece of work, both in the industry with which the text has been prepared for the press from a great variety of MS. sources and in the typography in which it has been expressed. No poet is more often quoted by lexicographers and authors of works on belles-lettres than Dhu-r-Rummah; but hitherto his poetry, except for the long first ode rhyming in *-bu*, has been little known to Western scholars. He lived towards the end of the first century of Islam, and died early in the second, after

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

a short life of some forty years. The native critics give him a high place among poets of the nomad life, especially in the great variety and appropriateness of his similes and in the felicity of his language. In panegyric and satire, on the other hand, he was less successful. To us this disqualification will not be to his discredit.

Another poet of the remotest antiquity whose compositions have now for the first time been published is 'Amr b. Qamī'ah, who was Imra' al-Qais's companion in his journey to Constantinople some time between A.D. 530 and 540. As he was then, according to tradition, about 90 years of age, most of the pieces now printed must date from the fifth century. He belonged to a family of poets, which included among others the great names of Ṭarafah and Maimūn al-A'shā; there is, therefore, no difficulty in accounting for the survival of his poems, which must have been transmitted by the established agency of the family *rāwīs*, or rhapsodists. This small volume, edited by the speaker, is also published by the Cambridge University Press.

It was hoped that it would have been possible to present to this Conference complete the edition, with translation, of the great anthology of ancient Arabic poetry called the *Mufaḍḍalīyāt*, on which he, Sir Charles Lyall, had been engaged for several years. The two volumes were exhibited on the table. The second, containing the translation, was finished; but of the first, comprising the text with the commentary of al-Qāsim al-Anbārī, something over a hundred pages were still lacking. Since the Armistice it has been possible to renew relations with the printers at Beyrout, and there is now a prospect of the edition being soon completed. On the importance of this anthology, which, with the celebrated collection of long odes called the *Mu'allaqāt*, generally ascribed to the famous Ḥammād ar-Rāwīyah, a contemporary of al-Mufaḍḍal, constitutes the oldest and largest body of selections from the mass of the old Arabian poetry, it is unnecessary to dwell. An account of it was given in a lecture

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

addressed to the British Academy on May 22, 1918, which was probably known to most of those present.

There still remains much to be done before the great body of ancient Arabic poetic literature can be said to have been thoroughly explored. The most important work is perhaps the edition of the *Dīwān* of Maimūn al-A'shā, on which Professor Rudolf Geyer, of Vienna, has been engaged for many years. Another very interesting author is 'Adī b. Zaid, the Christian poet of al-Ḥīrah, on whose *Dīwān* Mr. Krenkow has for some time past been busy.

2. M. Henri Cordier read *Some Notes on Chinese Studies* (1902–19). At various times he had reported on the progress of Chinese Studies down to the year 1902; to-day he would bring down his paper from 1902 to the present year, without aiming at completeness by reason of the War; however, with *T'oung Pao* it would be possible to fill the inevitable gaps. *T'oung Pao* had weathered the storm, and in spite of the exorbitant price of paper and printing had reached the age, ripe for a periodical, of thirty years. Chavannes, who, with the speaker, was joint editor of *T'oung Pao*, died on January 29, 1918, and the loss of this great Chinese scholar was severely felt not only in France, but also wherever Oriental studies are prosecuted. M. Cordier mentioned also the deaths of the two promising scholars, Robert Gauthiot, a victim of the great War, and Raphaël Petrucci, who had made a special study of Chinese Art. Dr. H. A. Giles had given (1918) a new edition of his *Introduction to the History of Chinese Pictorial Art*; he had with a great delicacy of feeling founded at the Académie des Inscriptions et Belles-Lettres a prize for works by French scholars on China, Japan, and the Far East at large.

M. Cordier then gave an account of stone sculpture in China, and spoke of the special labours of Dr. Victor Segalen, who had recently died, and of Chavannes. Music had not been neglected, and had been the object of research on the part of Maurice Courant, Laloy, Soulie, and Matthieu. Very

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

useful work had been done by the much-to-be-regretted W. W. Rockhill and F. Hirth in translating the *Chu fan chi*, the work of the thirteenth century Chinese traveller Chao Ju-kwa, and by the former in giving in *T'oung Pao* his notes on the *Relations and Trade of China with the Eastern Archipelago during the fourteenth century*, while the latter had translated from Se-ma Ts'ien the story of Chang Kien's voyages in Western Asia. The discovery of fragments of tortoise shells in 1899 in the Nou had called forth valuable papers by Chavannes and Lionel C. Hopkins. The travels in Central Asia of Sir Aurel Stein, Paul Pelliot, and von Lecoq had had important results with regard to the archæology and the knowledge of forgotten and lost languages. Phonetics has been studied by Bernhard Karlgren and Henri Maspero. The Jesuit missionaries in China had done valuable work with their series of *Variétés Sinologiques* and with the books of Father Wieger on Buddhism and Taoism, while the veteran sinologue Father Couvreur had given new translations of the *Ili* and *Ch'un Ts'ew*. Special mention should be made of the innumerable and learned papers of Dr. Berthold Laufer, of Chicago. Space does not permit us to enter into more particulars; M. Cordier's paper will be printed in full in *T'oung Pao*.

3. Professor A. T. Clay, lecturing on *Semitic Studies in America*, said that in the past his countrymen had been mainly dependent upon German textbooks and translations. During the last few years they had discovered that they had in the country a considerable number, say twenty-five, of young scholars capable of doing first-class research work in Assyriology. He proposed to muster these forces and organize the work. They wished to have a school of their own and compile their own manuals and lexicons. Already there was in the American universities the greatest enthusiasm for the plan, and about twenty volumes of transliteration and translation had been produced. The University of Yale had taken over the work of Sir William Ramsay at Antioch, and the American School of Oriental Research in Palestine.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

closed through the War, was about to reopen on an extended scale. At least one professor and several students would be sent annually from Yale to carry on the work. He looked forward to close and fruitful co-operation with the Palestine Exploration Fund and other British agencies.

4. PROFESSOR FINOT read a paper entitled *Les études indo-chinoises en 1919*. After pointing out that in Burma and the Malay Peninsula England had taken the initiative, whereas France had been first as regards Eastern Indo-China, and in Siam both had participated, he stated that he would confine himself to the work of France. The first task of the École Française d'Extrême-Orient, upon its foundation in 1889, had been to compile a catalogue of the monuments of which the existence had become known through the investigations of such men as Henri Mouhot, Doudart de Lagrée, Louis Delaporte, and Aymonier. For Cambodia this task, carried out by Lunet de Lajonquière, was accomplished in the publication of the three volumes which appeared in 1902–11 under his name; while for Champa an analogous service had been rendered by M. Parmentier (2 vols., 1909–18). The ruins of Angkor, placed in 1907 under the charge of France, were cleared and described by M. Jean Commaille, whose work was being continued by his successor, M. Henri Marchal. The Commission Archéologique de l'Indo-chine, founded at Paris in 1908, had issued works of importance relating to the Bayon and other Cambodian monuments. In this task General de Beglié, M. A. Barth, and M. Delaporte had laboured. Museums had been established at Phnom-Penh for Cambodia, at Tourane for Champa, at Hanoi for foreign art and the local art of Tonkin. The history and geography of the Indo-chinese countries had been illuminated by the study of inscriptions, commenced by MM. Aymonier, Bergaigne, and Barth, and continued by MM. Finot, Coedès, and Huber, and of the literature, in which connexion mention must be made of the work of Professor Pelliot, of M. Georges Maspéro, MM. Henri Maspéro and L. Cadière. In addition

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

to the great library of the École Française d'Extrême-Orient at Hanoi a "Royal Library" of Lao MSS. had been established at Luang-Prabang, and in connexion with the same branch of learning a School of Pali at Phnom-Penh. In respect of geography and cartography we are indebted to the work of Jean-Marie Dayot, Doudart de Lagrée, Francis Garnier, and the Pavie Mission, culminating in the great map called the "Carte Pavie". After referring to the statistical atlas of M. H. Brenier, and the geographical, meteorological, and medical services and the Institut Pasteur at Nhatrang, Professor Finot proceeded to deal with the complicated ethnographical and linguistic conditions of the peninsula, mentioning among other names those of Lunet de Lajonquière, Gustave Dumoutier, L. Cadière, Henri Maitre, Professor Cabaton, MM. Guignard, Diguet, Henri and Georges Maspéro. He concluded by referring to the practical difficulties attending such researches among the wilder races, as illustrated by the assassination of MM. Odend'hal and Henri Maitre, and by mentioning the activity of the École in the dispatch of special missions, such as those of Professor Chavannes to Northern China and Professor Pelliot to Central Asia, M. Péri to Japan, M. Parmentier to Java, M. Huber to Burma, and to the position and important work of M. Coedès at Bangkok. The real, though transient, success of the Hanoi Congress of 1902 encouraged the idea of a scientific federation for research among the countries of Eastern Asia.

THURSDAY, September 4

2.30. In the afternoon of Thursday the company visited the British Museum, where by the kind permission of the Trustees and the Director, the entrée of the rooms devoted to Oriental religions had been reserved. Mr. Longworth Dames, who had superintended the recent rearrangement of the rooms, acted as cicerone. In the department of Prints and Drawings Mr. Laurence Binyon exhibited a collection of fine paintings

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

on silk of ancient date, obtained from China and Central Asia, and DR. L. D. BARNETT, Keeper of the Oriental Books and MSS., had prepared an exhibition of notable MSS., while MR. L. C. HOPKINS showed some extremely ancient Chinese inscriptions on bones.

The company was very kindly entertained by SIR HERCULES and LADY READ at tea in their house at the Museum.

FRIDAY, September 5

2.30. The afternoon of Friday was spent at the School of Oriental Studies in Finsbury Circus, the Governing body having kindly approved of arrangements for lectures by SIR GEORGE GRIERSON and CAPTAIN R. CAMPBELL THOMPSON, and having also invited the company to take tea.

In his address of welcome SIR E. DENISON ROSS, the Director, said :—

"It is my privilege to give you a very warm welcome to this School, and in so doing to express my gratitude to the organizers of this meeting for including a visit to this School in their programme, and thus giving me an opportunity of receiving so many distinguished orientalists beneath a roof, which, though itself more than a century old, contains an institution which may, perhaps, be called a 'war baby'.

"Among my distinguished audience there are many who have, I know, been interested in the success of this School from the first. There are some who have shown a keen interest in the foundation of such a school as this one for many years past.

"Speaking as one who was formerly a pupil of the School of Oriental Languages in Paris and a student of the Sorbonne and the Collège de France, I may perhaps be permitted to express my special pleasure in welcoming here to-day some of my French friends: Monsieur Senart, the eminent French Sanskritist, and President of the Société Asiatique; and Professor Boyer, the distinguished head of the French School of Oriental Languages. I take this opportunity also to say what pleasure it gives me to meet my old friend and teacher,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Professor Sylvain Lévi, who has shown a keen interest in the establishment of this School for many years past.

"I trust that in referring especially to the representatives of France I may not appear to be in any way withholding our welcome from those of America and Italy. I may mention incidentally that during the course of the War we have received visits from a number of distinguished American scholars, and that I have been in correspondence with several Italian orientalists who have expressed their interest in the School. It was a matter of great interest to all of us to hear from Professor Breasted that an oriental institution had been started in Chicago, and I am sure we all wish it the best of success."

Sir Denison Ross then proceeded to describe the efforts and negotiations which had culminated in the foundation of the School, making special mention of Lord Reay, the late Lord Cromer, and Mr. P. J. Hartog, Secretary of the two successive Committees. He spoke of the building and the Library, which was being adapted to Orientalist purposes. The number of students during the past session had been 230, divided into three classes: (1) those taking sessional courses, (2) those undergoing an intensive course of five or six months, (3) those acquiring a slight knowledge of languages before proceeding abroad. For regular students a First Year and Second Year Certificate had been instituted, and for advanced studies a Diploma. Of the Bulletin, started on the lines of that of the École Française of Hanoi, two numbers had been issued, and it was proposed to continue the publication at irregular intervals, as the material should become available.

Sir George Grierson exhibited an interesting selection of gramophone illustrations of Indian dialects, drawing attention to characteristic features of pronunciation and tone. Meanwhile, in the large theatre Captain R. Campbell Thompson had commenced to show a series of lantern slides from photographs taken during the campaigns in Mesopotamia, where he had been present in both a military and archæological capacity.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The photographs showed excavations being carried on during the War at the great mound of Abu Shahrain, an ancient site of Elamite and Babylonian civilization, in the desert some distance from Bagdad. After expounding these operations the lecturer passed in review a considerable number of scenes in illustration of modern conditions and incidents in the War.

After the excellent tea, when the company had the pleasure of conversing with several representatives of the School, a meeting of the Standing Committees was held, under the chairmanship of Professor Sylvain Lévi, for the purpose of discussing the literary projects which had been mentioned at their former gathering.

SATURDAY, September 6

The concluding general meeting was preceded by a rather prolonged reunion of the Standing Committees, held, under the Presidency of Professor Clay, for the purpose of drafting resolutions. The business of the general meeting opened with a statement by Professor Clay, who continued upon invitation to occupy the chair.

1. The first resolution was moved by PROFESSOR A. A. MACDONELL: "That a sub-committee of the Oriental Societies taking part in this Joint Session be appointed to consider the best means of realizing the scheme of establishing an institute for International Research in India; such Committee in due course to report the result of its deliberations to the Standing Committees of the associated Societies."

THE CHAIRMAN having spoken of the international and American aspect of the proposal, PROFESSOR J. PH. VOGEL seconded it, laying stress upon the same feature. PROFESSOR STEN KONOW urged that in the constitution of the proposed Institute no difference should be recognized between scholars of European and those of Oriental birth. MR. P. P. S. SASTRI having concurred with Professor Konow and having deprecated a duplication of the government institution contemplated prior to the War, the resolution was unanimously carried.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

2. Mr. F. W. Thomas moved in the name of the Joint Standing Committee: "That a Committee consisting of Professor Cabaton, Professor Finot, Sir George Grierson, Mr. Blagden, Mr. F. W. Thomas, together with one or more representatives of the International Phonetic Association, should be appointed to continue the work of the Committee on Indo-Chinese Transliteration, which was nominated by the International Oriental Congress of Copenhagen (1908) and reported to that of Athens (1912); the Committee to deal with the representation of the Tones." The proposal was adopted *nem. con.*

3. The Chairman proposed that a Report of the Joint Session should be published in the Journals of the Societies.

Mr. P. P. S. Sastri having advocated a publication of all the papers *in extenso*, the Bishop of Salford recommended a publication of abstracts only, and Sir Percy Sykes concurred, adding that in the case of papers whose publication in full should have been arranged references should be given to such publication. Mr. F. W. Thomas having represented the delay and heavy responsibilities involved in the larger project, and having pointed out that a single Report, and not three Reports, would be issued by the Societies, the resolution was carried.

4. Mr. Thomas proposed a resolution drawn up by M. Senart on behalf of the Committees in the following terms:—

"That a committee consisting of Messrs. Sylvain Lévi, F. W. Thomas, and J. H. Woods (with possible extension later) should be formed with a view to studying and preparing the publication of a general dictionary of Buddhism.

"The Joint Standing Committee makes a point of stating further that it has considered two propositions, aiming (1) at a publication of the Tibetan *Dul. va*; (2) at a publication concerning the ancient cartography of India and the Far East. These enterprises appear to the Committees extremely interesting, and they consider it a duty to place them on

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

record at once with a view to proceeding with their execution as soon as circumstances shall permit."

The resolution was adopted with one dissentient.

5. Mr. Thomas proposed in the name of the Joint Standing Committees :—

"That the Joint Session urges upon the Government of India the extreme desirability of procuring, when circumstances permit, facilities for the archæological exploration of Balkh and the adjacent regions. These countries, the ancient Bactria and Ariana, played a supreme part in the history of Central Asia during its most important periods, and represent probably the most interesting region in the world yet unexplored by archæology. The policy of exclusion hitherto necessitated by political considerations in Afghanistan has hindered all scientific investigation of the area, although scholars from the time of Cunningham have fully recognized its great importance."

After a speaker had suggested the substitution of the name Bamian for that of Balkh the resolution was adopted.

6. Professor Sten Konow moved that the proceedings of the federated Societies should be regularly communicated to the scholars of the smaller countries, e.g. to the Orientalist Members of the Academies of Norway, Sweden, Denmark, Holland, and Belgium.

Professor Sylvain Lévi deprecated any step at variance with the basis of the federation, and pointed out that the scholars in question could become members of the several societies. After an explanation from Professor Konow that the scholars, while not sufficiently numerous to form societies of their own, did not desire to merge their nationality, M. Senart, in an eloquent address, dwelt upon the character of the alliance as a combination of societies, not of unorganized individuals after the manner of the old Orientalist Congresses. The meetings now initiated were of an entirely different nature, as was evident from the mere fact of their annual occurrence. The movement, moreover, was at its commencement, and it

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

was highly inadvisable to compromise its development. He appealed to Professor Konow to give it time to consolidate upon definite lines.

PROFESSOR ANESAKI undertook to make inquiries with a view to the accession of Japan to the federation.

The matter then dropped.

After an announcement concerning the afternoon visit to Kew and an appeal from Mr. P. P. S. SASTRI for a publication in India regarding the proposed British, or International, Schools of Studies, the meeting terminated with a vote of thanks to the Chairman.

2 o'clock. For the afternoon a visit to Kew Gardens had been arranged, and about forty members proceeded luxuriously thither in motor-cars which had been procured by the generosity and resource of MR. ROBERT MOND. SIR DAVID PRAIN, the Director, had kindly undertaken to conduct the party, which under his guidance traversed the lawns and visited the hot-houses and other points of interest. The excursion, which provided opportunities for personal meetings and conversation, terminated with a very well-appointed tea, provided by the Royal Asiatic Society at the Kiosk. The return to town was again facilitated by the liberality of Mr. Robert Mond.

7.30. The Banquet, to which the Royal Asiatic Society had invited the visitors from America, France, and Italy, was also honoured by the attendance of the Chinese Minister, Signor Balsamo (representing the Italian Embassy), Sir David Prain, and Sir Hercules Read. The Chairman, MR. LONGWORTH DAMES, in proposing the toast of the Visitors, read a letter from Lord Reay, whose regret for his inability to be present was the more keen as he thereby missed an opportunity of meeting M. Senart, a friend of long standing. The toast was acknowledged by the CHINESE MINISTER, M. SENART, PROFESSOR J. H. WOODS, and SIGNOR BALSAMO. M. SENART, in an impressive and eloquent speech, congratulated the English and French Societies upon the fact

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

that after about a century of coexistence and many vicissitudes they had found it possible to come together in close and friendly alliance, and to associate with them younger and daughter societies. He dwelt upon the purely scientific and inoffensive purpose of their union, and upon the vast fields of study which lay open to their researches. PROFESSOR WOODS expressed on behalf of the American Oriental Society the satisfaction felt at the association with bodies with such venerable standing, and gave some amusing illustrations of European misunderstanding of American ways. PROFESSOR NAVILLE spoke in English of his student days as a contemporary of Sir Charles Lyall in London, and continued in French to narrate some interesting incidents in connexion with his studies and the progress of Egyptology. SIR PERCY SYKES proposed the health of the CHAIRMAN, who in reply referred to the services of Sir George Grierson, one of whose titles to his personal regard was his Irish nationality, a qualification shared also by the Royal Asiatic Society's Secretary, Miss Hull. PROFESSOR A. T. CLAY proposed a vote of thanks to Dr. F. W. Thomas and Miss Hull for their labours in organizing the Joint Session, which had been an unqualified success. After MR. THOMAS had replied, a picturesque finale was provided by the young Madrasi Brahman, Mr. P. P. S. Sastri, who volunteered a benediction in sonorous Sanskrit.

During the days of the Session the visiting members were accorded the privileges of temporary membership of the Royal Societies' Club, 63 St. James' Street, and an exhibition of Oriental MSS. was on view in the Library of the India Office. To the authorities of these institutions, as well as to those of the British Museum and the School of Oriental Studies, the Royal Asiatic Society has in due course expressed its thanks.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

SECTIONAL MEETINGS

The Near East, Persia, and Islam

THURSDAY, September 4

10.30 a.m. BRIGADIER-GENERAL SIR PERCY SYKES having been elected Chairman, and DR. BÜCHLER Secretary, of the Section, papers were read as follows :—

1. M. RENÉ BASSET, *doyen* of the Faculté des Lettres d'Alger, read a memoir on the French researches in Northern Africa from 1830 onwards, entitled *Les Études de l'Afrique du Nord.* He insisted particularly upon the support given by the various governments, and called attention to the results obtained in the various fields of study by the École Supérieure, later known as the Faculté des Lettres of the University of Algiers.

THE CHAIRMAN having thanked M. Basset for his paper (of which a more extensive resumé is unfortunately not available), a vote of thanks was passed.

2. PROFESSOR D. S. MARGOLIOUTH read a paper on *The Historical Content of the Dīwān of Buḥturī*, wherein he showed how the Chronicle of Ṭabarī could be supplemented from this source for the anarchical period of the third century of Islam, and collected some materials from the poet's statements for the history of the clerical profession in Baghdad.

A vote of thanks to Professor Margoliouth was passed.

3. DR. R. A. NICHOLSON : *The Asrār-i-Khudī, a Moslem interpretation of Vitalism, by Sheikh Muḥammad Iqbāl of Lahore.*—The *Asrār-i-Khudī*, a Persian Maṣnavī, was first published at Lahore in 1914. The author has studied modern European philosophy and holds degrees from the Universities of Cambridge and Munich. His aim is to bring about the regeneration of Islam, and with this vision before him he demands that every Moslem shall reform himself. Inasmuch as reformation depends on self-knowledge, the question arises whether *khudī*—self-consciousness, in its individual aspect individuality, personality—is real, or merely an

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

illusion of the mind. Iqbāl sees that Hindu philosophy and Islamic pantheism have destroyed for their adherents the capacity for action which distinguishes the Western peoples. He affirms the reality of the self and vigorously attacks the doctrine of self-negation. Against the idealism of Plato and the pseudo-mysticism of Ḥāfiẓ he sets the moral energy of Jalāl ud-Dīn Rūmī, whose *Maṣnavī* he takes as his model. He lays great emphasis on the value of love—love of Allah and the Prophet—for strengthening and developing the self. Following Bergson, he teaches that reality is not found in Being, but in Becoming; not in changeless calm, but in life and strife. In describing the highest stage of self-development he adapts to his own ends the doctrine known to students of Sufiïsm as that of the *insān al-kāmil*, namely, that every man is potentially a microcosm and that, when he has become spiritually perfect, all the Divine attributes are displayed by him, so that he becomes the *Khalīfa*, or Vicegerent of God. The poet bids his readers emulate the Caliph 'Alī, in whom the character of the Prophet Man is portrayed. Iqbāl is no friend of nationalism. The Moslem's heart, he says, has no country except Islam. What he has in view is a theocratic Utopian state, with the Ka'ba as visible centre, a state in which Moslems of every race are eternally one.

A vote of thanks to Dr. Nicholson was passed.

4. Dr. M. Gaster: *Organization of Archæological Researches in Asia Minor.*—Owing to the mutual rivalries of the Powers it was not often easy to obtain concessions from the Porte; for let it be remembered that such a concession constituted a privilege. It gave for a time, as it were, the right to dispose of, or at least to retain, the objects discovered, which the excavators treated as their own property. Thus the fairest and most important monuments of olden times have been scattered among the museums and libraries of Europe.

It was owing to the local beliefs and traditions that these ruins of the past were left intact. Nobody ventured to break into them or to touch anything found therein. Through

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the intervention of European excavators the old spell was broken. If they dared to disturb the old resting-places with impunity, why should those living round about not follow their example? And the result has been that wholesale thieving set in, and it was often by a miracle that some of the stolen objects had come into proper hands and thus been saved.

Finally, through the carrying away of all the valuable objects found, only an empty shell was left, which was more or less allowed to fall into ruin or to be covered mercifully by the sand of the desert.

For these reasons it was now submitted :—

(1) That a special international committee should be appointed, on which all the principal states of Europe as well as of America should be represented, for the purpose of centralizing and systematizing the work of exploration and excavation. The Committee should be charged to prepare a scheme for the guidance of those entrusted with the work, and should be able to make representations to the various Governments, which shall have obtained mandates.

(2) That local museums should be established near the places where the excavations should be carried on, wherein all the objects found could be deposited; or, if found more satisfactory, one central museum should be established for each province, following therein the examples of the Governments of India and Egypt. This would at once reduce to a minimum the tendency to pilfering and secret destruction of valuable finds, and it would also prevent the scattering of objects found in a single spot over many parts of the earth. The objections hitherto raised against such a plan, viz. distance, difficulty of travelling, and insecurity for the objects themselves, no longer hold good. Moreover, the objects found could easily be reproduced by photography and other means, so as to bring them within the reach of scholars in other parts of the world.

The establishment of such local museums would also have

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

very important results of a moral character. Moreover, by appointing, whenever possible, local members to these local committees engaged in exploration, excavation, or trusteeship of the museum they would win their hearty co-operation.

Dr. Garstang emphasized the necessity of collaboration by scholars in the conduct of excavations, and referred to suggestions made by himself during his visit to Palestine concerning the preservation of the Palestinian monuments and the appointment of a keeper and inspector of antiquities. He suggested a modified resolution to the effect that :—

> "It is desirable that, whatever Power receives the mandate for the Near East or a part thereof, there shall be associated with the Director of Antiquities a Board representing the archæological interests of America, France, Great Britain, and Italy, which shall advise, and in some cases decide, upon questions of general interest to be submitted to it."

Professor J. H. Breasted stated that similar resolutions had already been submitted to the Peace Conference for embodiment in the Treaty with Turkey. Sir Charles Lyall called attention to the resolutions presented to the Peace Conference by the British Academy. Mr. Offord suggested that in view of the insecure conditions monuments should not be left in the charge of the countries where they are found. Professor Naville welcomed the resolution, and illustrated the difficulty of preserving archæological finds intact among populations initiated into their monetary value.

A vote of thanks was accorded to Dr. Gaster.

5. M. Danon read two papers, entitled respectively *Légendes turques sur les Kizil-Baches* and *Fragmens de versions turques de la Bible.*

The first paper dealt with two unpublished Turkish documents (end of the sixteenth century) concerning the religious organization of the Kizil-bashes, or of a Muhammadan sect among them, their sexual communism and weekly rite in its celebration.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The three MS. fragments treated in the second paper belong to the Bible and the post-Biblical literature. They are (1) six leaves of a Karaïte version in Hebrew characters of the Proverbs of Solomon, the author being probably Abraham b. Samuel Firkovitz, author of a similar version of the Pentateuch (published at Ortakeuy-Constantinople in 1832–5), as is shown by the absence in both translations of the inversion proper to Turkish syntax; (2) a version of Ecclesiasticus, or the Book of Wisdom of Ben-Sīra, perhaps due to a Greek speaking the Turkish dialect of Kaisarië in Asia Minor, dating from the sixteenth century *circa*, and accompanied by a French translation of the eighteenth (?); (3) the romance falsely named after Haigar (Akhiakar) in Turkish, probably a translation from the Arabic, but abridged, as appears from the absence of several proper names found in the Greek original, and having the edifying purpose of showing a pagan minister of Sennacherib, after numerous trials, embracing Islam, or rather monotheism.

A vote of thanks to M. Danon was proposed, supported with some interesting observations by PROFESSOR HAGOPIAN, and carried.

FRIDAY, September 5

10.30 a.m. SIR PERCY SYKES in the chair. The following papers were read :—

1. PROFESSOR A. T. CLAY, dealing with the Empire of the Amorites, showed that a much greater importance than had hitherto been recognized attaches to the part played by the Amurru, or Amorites, in the history of the Near East. The information contained in the Old Testament required amplification from other sources, which lent a considerable significance to this people. It was scarcely an exaggeration to speak of a North-Semitic empire under their names.

PROFESSOR GARSTANG, congratulating the lecturer, referred to the co-operation of the American, French, and British archæological schools in Palestine, and advocated a common organization of libraries, curricula, and plans of work.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Professor Clay was cordially thanked.

2. Dr. A. Cowley: *A Passage in the Mesha Inscription and the early form of the Israelitish Divine Name.*—In the ostraka from Samaria the name is יה; in the Elephantine papyri it is יהו. It was suggested that these forms both represent the same sound, and that at some time, probably in the fifth century B.C., the practice arose of writing a ה to represent a long vowel. This view was supported by the examination of other names occurring in the papyri. The final ה of the Tetragrammaton (expressing a final *a*) was added to ease the pronunciation, much as in other stems in Hebrew ending in ו. The longer form of the name, therefore, is developed from the shorter, and not vice versa. It is hardly possible that the full form should be found so early as the time of Mesha. In l. 18 of his inscription, if it is not the name, it must be the verb "to be", and the phrase is probably to be completed [אשר] לי יהוה, "that which should be for me," i.e. "my share".[1]

Professor Clay remarked upon the great interest of Dr. Cowley's investigation. Professor Langdon continued this discussion, and a hearty vote of thanks was passed.

3. M. Clermont-Ganneau gave an account of a Jewish inscription on a mosaic found during the War. The mosaic was brought to light by the British bombardment on a spot near the Mount of Temptation at Jericho. It invited the Jews to maintain their faith by liberal contributions, the character being that of the Galilean synagogues of the first and second century. The "holy place" for which contributions are invited was identified by the lecturer with the ἱερὸς τόπος of the Essenes, so that the mosaic probably appertained to an Essene synagogue. The site is probably that of the Maccabean fortress of Dok, where Simon was assassinated, or Naära, near Jericho. Probably a scientific excavation would yield important historical information.

M. Danon, commenting on the paper, dwelt upon the reliability of Massoretic tradition, and went on to discuss

[1] This paper will appear in the April Number.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the questions raised by Dr. Cowley and Professor Clay concerning the Tetragrammaton. A vote of thanks was passed to the lecturer.

4. PROFESSOR BURKITT: *Notes on the Table of Nations (Genesis X)*.—Genesis x, the "Table of Nations", is to be regarded as a unity, part of the work of J, the "Jahwistic" compiler of the eighth century B.C. In this table Shem includes the nations with which the Israelites felt themselves kin; Japheth and Ham, on the other hand, are merely geographical expressions for the nations north and south of the Semites.

The newly discovered "Sumerian Dynastic List" from Nippur, discussed by the late Dr. L. W. King in his Schweich Lectures for 1916, helps us to see that the Babylonian "Cush" in Gen. x stands for Kesh, the earliest traditional seat of civilization in Babylonia (older than Erech), not for the Elamite Kossites.

The fact that Kish and Erech are grouped under Ham shows that the Hebrews understood that the earliest Babylonian civilization (i.e. the Sumerian) was not Semitic. Arpachshad symbolizes the earliest Semitic Babylonian population; Eber, followed by Peleg (i.e. "division", Gen. x, 25), symbolizes the separation between the Sumerianized Semitic Babylonians and those who, like the ancestors of the Hebrews, remained Semitic in culture and language.

In putting a vote of thanks to Professor Burkitt for his interesting paper, the CHAIRMAN propounded a very original explanation of the name Kush in connexion with the two populations differentiated by their hair.

5. MR. KRENKOW: *The Poetical Remains of Muzāhim al 'Uqailī*.—The works of this poet mark the transition from the genuine Bedouin to the litteraire of the town, and they manifest traces of Persian influence.

DR. HIRSCHFELD having discussed the paper, a cordial vote of thanks was passed.

The proceedings then terminated.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Indian Sphere

THURSDAY, September 4

10.30. MR. M. LONGWORTH DAMES, Vice-President of the Royal Asiatic Society, in the chair.

PROFESSOR A. A. MACDONELL read a paper entitled *Notes on Sanskrit Studies at the Present Time,* of which the following is an abstract :—

He dealt with the present state of Sanskrit studies, chiefly as affected by the War, and with their future prospects. He showed how the work of individual Oriental scholars had been interrupted, how some of them had lost their lives, while Societies like the Royal Asiatic of Great Britain and Ireland had suffered both financially and in the amount of scholarly work published by them. The action of the Academies in the promotion of Oriental research had been to a large extent suspended. This was especially the case with the proposed critical edition of the *Mahābhārata.* At the present time the funds available for the purpose amounted to £6,000, a sum made up of about £1,700 from subscriptions, a subvention of £1,700 promised by the India Office, and a grant of £2,500 voted by the Associated Academies. Before the outbreak of the War, estimates of the cost of printing had been furnished, the collaborators, most of whom were Germans, had been selected, and the portions of the epic assigned to them allotted. Now that the War had come to an end we were faced with the question how the undertaking should be resumed. The answer to this depends on the attitude which the Academies of this and the Allied countries were going to adopt towards those of Germany and Austria. A suggestion was made as to what that attitude should be.

The War had put an end to a publication of an international character, the Oriental Bibliography, which it was advisable to revive by the co-operation of the Allied Asiatic Societies.

The only department of Oriental research not detrimentally affected was archæology. In India archæological work had

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

been pursuing an uninterrupted course of progress, as shown by the admirable annual reports published by the Director of the Archæological Survey. The post of Archæological Commissioner of Ceylon had now been filled by the appointment of Mr. A. M. Hocart, M.A., of Exeter College, who was pursuing his probationary studies at Oxford. In another region of the East archæology would positively benefit as a result of the War. The important archæological areas of Syria, Palestine, and Mesopotamia would now be under the protection of civilized states and would be scientifically exploited.

As to the future of Sanskrit studies in India and in this country, the prospects were not altogether bright. There were now only two European Sanskrit scholars in India, and, when those two retired, there would probably be none left in the whole of India, either in the educational or the archæological service. It was for various reasons important that there should be a few such scholars in India, especially those trained in research. Several years ago some Oriental Professors of Oxford and Cambridge recommended to the India Office the establishment of a few scholarships to enable trained young scholars to pursue the study of subjects which could be better learnt in India than in Europe, such as archæology, ethnology, and the philology of modern vernaculars. Not long afterwards the Government of India started a system by which two or three scholars selected every year from the Universities in different parts of India are sent over to England to be trained in Oriental subjects according to Western methods of research. This system had already resulted in several useful publications. But it was too soon yet to judge how far this plan would succeed in the long run.

The question of how to promote the study of Sanskrit and other subjects by Europeans in connexion with India under present circumstances could probably best be met by the establishment of a British Institute of Oriental Research analogous in its arrangement to the British School at Athens and at Rome, or the French School of the Extreme East at

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Hanoi. This would in no way interfere with the proposed Oriental Institute at Delhi, because it would provide for the wants of trained European scholars pursuing these studies in India, while the latter would cater for Indian students not yet trained in research. The main difficulty at the present time would, no doubt, be how to raise the necessary funds. But perhaps the American Oriental Society might be able to co-operate with the Royal Asiatic Society in this matter; and, if the project could be brought within the scope of the Carnegie fund, the financial difficulties would probably disappear.

Mr. F. W. Thomas called attention to the recently reported proposal of the Bhandarkar Institute in Poona for a critical edition of the *Mahābhārata*, to be produced in India by the aid of a fund which had been placed at its disposal for the purpose; also to the announcement of a Congress of Orientalists to be held shortly at Poona under the auspices of the Institute. He also referred to the increasing number of young Indian scholars trained in Europe, or otherwise versed in European methods of research and producing valuable work.

Mr. Pargiter acknowledged the good work of Indian scholars, and the same point was enforced by Professor Sten Konow and Professor J. Ph. Vogel, the latter expressing a hope that the proposed Institute of Research in India might have an international character. Mr. P. P. S. Sastri urged that Indians should be associated with the Institute.

2. Professor E. J. Rapson: *Notes on the history of the word "drachma"*.—The Greek drachma with its multiples and subdivisions was introduced into India by Alexander the Great and his Greco-Bactrian successors; and the smaller silver coins of Apollodotus and Menander are actually called *drachmæ* by the author of *Periplus of the Erythræan Sea*, c. A.D. 80. But the word, or its Indian equivalent, has not been found in Sanskrit literature or inscriptions until a much

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

later date. The form *dramma*, which appears first in the Gwalior inscription of Bhojadeva of Kanauj (A.D. 875), is to be traced to Iran, where the drachma was the ordinary money of account during the Parthian and Sassanian periods. The Rajputs of Kanauj were Gurjaras who came into the country of the lower Indus from Iran by the route through Kandahar, Quetta, and Kalat, probably at the time of the great Hūna invasion in the latter half of the fifth century A.D. The Hūnas and Gurjaras brought with them into India vast quantities of Sassanian coins. Their earliest Indian issues are simply Sassanian coins re-struck; and their first independent issues are closely imitated from the current Sassanian coins. These are found in great numbers in Marwar, the region of Rajputana adjacent to the country which was first invaded. The next stage is represented by the so-called *Gadhiya-paisā*, coins of thick Indian fabric, but still retaining the original Sassanian types. The coins to which the name *dramma* is specifically applied in the inscriptions, e.g. the Śrīmad-Ādi-Varāha *drammas* struck by Bhojadeva, are manifestly connected both by their fabric and by their weight (about 65 grains = 4·211 grammes) with the *Gadhiya-paisā*. They belong to the period when Gurjara rule had extended from the land of the Indus to the land of the Ganges.

Sir George Grierson pointed out that the form *damṛi* should really be written with a cerebral *r*, and was a diminutive of *dam*, and Mr. Longworth Dames concurred in that view. Professor Sylvain Lévi drew attention to the linguistic significance of the form *dramma*, which by the retention of the original *r* and the loss of the aspirate testifies to its passage through an Iranian medium, a contribution which was cordially welcomed by Professor Rapson.

3. Professor T. W. Rhys Davids reported upon the *Present Position and Prospects of the Pali Text Society*. He said: You doubtless know how the Society was started in 1881 to publish the historical records preserved in palm-leaf MSS. written in Pali in the alphabets of Burma, Siam, and

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Ceylon. Pali was almost unknown in Europe; capable editors could certainly be counted on the fingers of one hand; and there was no money to pay for the printing or for the work of editing. Our utmost hope was to print two volumes a year. Thirty-eight years have since then elapsed. The Society has brought out not only the seventy-six volumes it hoped to be able to do; it has published ninety-six. All the oldest of the texts have appeared. The Society has started a series of translations, and is preparing a much-needed dictionary. The publication for the five years 1914–18 include the completion of the *Dhammapada* Commentary, a new edition of the *Sutta-Nipāta* and of its commentary, and of the *Khuddaka Pāṭha* and its commentary; and finally of the *Niddesa*, a work of the greatest interest, as it is the oldest complete Pali commentary in existence.

The outlook for the immediate future is dark. Even before the War the cost of printing had slowly, but steadily, gone up. Since the War it has increased by leaps and bounds. Something will have to be done. The Society has received donations amounting altogether to just two thousand pounds. Either more donations must come in, or more subscribers, or the Society will have to suspend its work for the present. Two volumes of the dictionary, text and translation of the *Visuddhi-Magga*, the translation of Buddhaghosa's *Attha-sālinī* and other important texts are waiting to be printed.

THE CHAIRMAN thanked Professor Rhys Davids for his presence and his report.

4. DR. J. N. FARQUHAR: *The Historical Position of Rāmānanda.*—He argued that, as it had been shown in recent research that Nāmdev, the Marāṭha Bhakta, an immediate forerunner of Rāmānanda, had flourished about 1400–30, it would be reasonable to take 1430 as the upward limit of Rāmānanda's activity as a teacher. This fits in well with the birth of Pipa, his royal disciple, in 1425, and with the life of Kabīr, who seems to have been born in 1440. On the other hand, fresh information from Udaipur suggests that Mīrā Bāī

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

left the Mewar capital and became a disciple of Rai Dās, another of Rāmānanda's disciples, about 1470. The master therefore, was probably dead by this time. Thus the forty years 1430–70 cover the period of Rāmānanda's teaching.

He gave many reasons for disbelieving the common traditional statement that Rāmānanda belonged to the sect of Rāmānuja, especially the fact that he taught that release was to be found in Rāma alone.

He probably came of a Rāmaite sect which existed in South India and used as its chief scriptures, in addition to Vālmiki's *Rāmāyaṇa*, the *Agastya-Sutīkshṇa-Saṃvāda* and the *Adhyātma-Rāmāyaṇa*, which finds release in Rāma alone and teaches a Rāma-mantra. The latter is one of the chief sources of Tulsi Das's *Rāmāyaṇa*, and a few years ago the *Agastya-Sutīkshṇa-Saṃvāda* was published in a Hindi translation in the North with the biography of Rāmānanda included. It thus seems likely that Rāmānanda belonged to this sect, and brought its theology and its literature to the North with him.[1]

SIR GEORGE GRIERSON complimented Dr. Farquhar on his interesting paper, and proceeded to discuss the question of date, which involved certain difficulties. Dr. Farquhar replied.

The meeting then adjourned.

FRIDAY, September 5

10.30. PROFESSOR SYLVAIN LÉVI having been voted into the Chair, DR. VINCENT SMITH delivered an address entitled *Mr. Jayaswal's Paper on Statues of two Śaiśunāga Kings.*—The two statues, which are in the Indian Museum, Calcutta, were found at Patna about a century ago. They are in the round, and of life size or a little larger. Each bears a short inscription of eight characters, cut on the scarf passing over the back. The characters are exceptionally difficult to read, because the script is peculiar and the forms of the letters are obscured by the parallel grooves marking the folds of the scarf. The only letter repeated is *n*, which appears in a

[1] This paper will appear in the April Number.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

curiously late shape, most resembling that found in certain Kushān inscriptions of the first or second century A.C., a date quite impossible for the statues. The inscriptions have been studied carefully for the first time by Mr. K. P. Jayaswal, whose work has been criticized by Mr. R. D. Banerji of the Indian Museum. Both the scholars named, who had the advantage of examining the statues at leisure, have published their results in the Journal of the Bihar and Orissa Research Society for 1919, vol. v. Both agree that the statues are pre-Maurya, the oldest known in India, and that they are portraits of the two kings, Aja or Udaya, and his son, Varta Naṃdi or Nandi (Nanda) Vardhana, who reigned in the fifth century B.C. That result, if established, revolutionizes the history of Indian art. If the Patna statues and their inscriptions are as old as supposed, it must be admitted that the art of sculpture in stone was well matured two centuries before Asoka. The execution of the images is such that it presupposes a long prior development of plastic art.

Dr. Smith was impressed by the fact that both Jayaswal and Banerji agree in the reading of the inscription on the later or B statue as being *Saba khate Vata Naṃdi*, which is interpreted as meaning "Varta Naṃdi of universal dominion". The reading seems to be certain. Jayaswal read the second syllable as *pa*, but Banerji points out that on the stone it is *ba*. The correction does not affect the interpretation. The second on the older or A statue is more difficult to read. Banerji feels doubts about three of the eight characters, while concurring with Jayaswal that the inscription refers to King Aja, also called Udaya or Udayim. Dr. Smith, while unwilling to dogmatize, was and is of opinion that the statues are pre-Maurya, that probably they were executed not later than 400 B.C., that the inscriptions are contemporary with the statues, and that the appearance of comparative modernity in the script is not conclusive. For the present the problem must be regarded as not yet definitely solved.

M. Senart referred to the interesting nature of the theory

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

propounded, but declined to venture upon any discussion of its justification pending the possibility of inspecting estampages of the two inscriptions. SIR GEORGE GRIERSON stated that he had been awaiting the arrival of estampages, which Mr. Jayaswal had sent to him, and they had arrived only that morning. He exhibited them. DR. L. D. BARNETT stated that after a study of the inscriptions he entirely dissented from the view taken by Mr. Jayaswal. He criticized the readings, and drew attention to inconsistencies in the supposed dialectical forms; from the position of the writing on the backs of the statues he concluded that it contained only mason's notes.

2. PROFESSOR STEN KONOW communicated the preliminary results of a renewed examination of *Some Documents relating to the Ancient History of the Indo-Scythians*. Professor Sieg had proved that the Indo-European language once spoken in the north-eastern parts of Chinese Turkistan is in some manuscripts called *Ārši*, while in Uigur colophons it seems to be designated as *Toχri*. Professor Müller is probably right in comparing the statement of Trogus, according to which the kings of the Tokharians were at some period styled Asiani, so that the Asii and Asiani of the classical authors would have to be identified with *Ārši* and the Tokharians with *Toχri*. Accordingly the language variously styled *Toχri* and *Ārši* must be considered as the speech of the old Tokharians, as has long ago been inferred by Sieg and others.

Now the Tokharians have usually been identified with the Yueh-chi and also with the Kushān rulers of India and the Indian borderland. All that we know about the latter, however, seems to show that they spoke an Iranian tongue, closely related to, if not identical with, the old language of the Khotan country, and further that there existed intimate relations between them and the Iranians of Southern Turkistan. Several new facts were brought forward in proof of this, e.g. titles used to describe the Kushān rulers Kanishka and the Zeda inscription, which were also found in

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Old Khotanese, and the use of the title *shao*, which is well known from the coin legends of Kanishka and his successors, in Khotanese documents, in such a way that we can infer that the system of government known to have existed amongst the Sakas of India with subordinate rulers styled *shao* or *shahi* was also in use in the Khotan country. We would naturally infer a close relationship between the Sakas, the Kushāns, and the Iranians of Southern Turkistan, if it were not for the supposed identification of the Tokharians with the Yueh-chi and their successors, the Kushāns. This identification cannot, however, be maintained. Chinese sources inform us that the Yueh-chi conquered Ta-hia, and Trogus tells us that the Asiani became kings over the Tokharians. Marquardt has long ago compared these two statements with each other and identified the Asiani with the Yueh-chi and the Tokharians with the Ta-hia, and this identification has now received fresh support through the new discovery of the name *Ārši* for the language apparently called *Toχri* elsewhere. The Yueh-chi were accordingly originally different from the Tokharians, whose migration towards the west, when they settled in Bactria, must be referred to an earlier period than the Yueh-chi conquest. The Yueh-chi, on the other hand, later on made themselves masters of the Tokharians in Bactria as well as in the east, and the title or designation *Ārši*, Asii, should be explained to denote these Yueh-chi rulers. It is perhaps itself an Iranian word and connected with the title *alysāna, erjhūna*, used in an Indo-Skythian inscription and in Iranian texts from Southern Turkistan. If so, it must be different from the designation Yueh-chi, Ṅur-si, Kushi, which is used to denote these rulers themselves. The Yueh-chi or Kushāns were, according to everything we know about them, Iranians, and must provisionally be described as a Saka tribe.

THE CHAIRMAN thanked Professor Konow for his valuable contribution concerning an important matter which otherwise might not have been represented at the Joint Session.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

3. Mr. F. W. Thomas: *Some remarks on Indian Cosmography.*

Little has been written concerning conceptions of the cosmos entertained by ordinary unmetaphysical persons in ancient India. Our Indo-European ancestors seem to have conceived a world in three tiers, occupied respectively by the *deivōs*, or "sky-people", the *ghemones*, *homines*, ἐπιχθόνιοι, or "dwellers upon the earth", and the subterranean people, χθόνιοι, including certain gods, demons, and the dead. The earth was, no doubt, circular, whether flat or otherwise. To the earliest Greeks and Teutons the cosmos was comparable to a pair of inverted bowls, both resting on a surrounding ocean and the larger one, the vault of the sky, enveloping the other. This conception, which was also Babylonian, was apparently not entertained by the Vedic Indians, who paradoxically conceived of the two bowls, each triple, as concave to each other (*camuā samīcī*), a view which, no doubt, survives in the cosmic egg of the Purāṇas. But it clearly underlays the well-known Jaina cosmographic figure, which again reproduces the triplicity of the Vedic conception. The vertical divisions of the Jaina *trasa-nāḍī*, in conjunction with the akimbo figure, were perhaps derived from misunderstanding of a well-known Babylonian plaque, held out by a demon whose head, claws, and feet appear in front. As Dr. Paul Carus had shown in the *Monist* for 1897, this design was clearly the source of the Indian, Tibetan, and other Buddhist representations of the wheel of life, the idea of circularity being a Buddhist addition. The Buddhist wheel accounted for the later paradoxical shape of Mount Meru, which in most, though perhaps not in all, the Brāhmaṇical descriptions, increases in breadth with its height; this feature is plainly due to its having been originally a segment of a circle. The Buddhist picture had, no doubt, been popularized by the activity of preaching friars, *yamapaṭṭa* men, etc. Mount Meru was perhaps of Babylonian origin, as had been suggested, though this was not certain, as the idea of a mountain of the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

gods was widespread, *vide* the Greek Olympos, etc. The Indian cosmographies were therefore composed of three several elements, namely, (1) the conception of the two superposed bowls, (2) the conception (perhaps originally due to a *misunderstanding* of the Babylonian tablet) of tiers of existence, (3) the conception of the world mountain, or mountain of the gods.

THE CHAIRMAN thanked Mr. Thomas for his paper.

4. PROFESSOR J. PH. VOGEL: *A British School of Indian Studies in India.*

At a meeting of the Royal Asiatic Society on March 14, 1916, Professor Macdonell pointed out the necessity of establishing a school of research for Europeans at some centre of Sanskrit learning, preferably Benares.

As regards the desirability of such an institution, all Sanskritists will agree. Many years ago a similar proposal was made by Sir John Marshall, the Director-General of Archæology in India.

Notwithstanding the great progress made in archæological and philological research since Sir William Jones founded the Asiatic Society of Bengal an enormous amount of work still remains to be done in every department of Indian studies. It is a hopeful sign that of late years several provincial societies have been started, which devote themselves to historical research. Besides, there are the scientific departments of the Government of India, the Archæological, Ethnographical, and Linguistic Surveys. As regards the Archæological Survey, it should be noted that its primary task is the preservation of the ancient monuments, their investigation occupying only the second place. Important groups of ancient buildings, e.g. those of the Imperial Capital, Delhi, have never been adequately described. The museums of India, too, contain a mass of material which has only very partially been explored. There is ample room for detailed studies of practically every class of antiquities. As regards epigraphy, excellent work has been done both by European and Indian

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

scholars. But side by side with the *Epigraphica Indica* and *Epigraphica Indo-Moslemica* we want the *Corpus Inscriptionum Indicarum* to be continued. Of this series only two volumes have so far appeared, one of which, dealing with the Asoka inscriptions, is now obsolete.

What has been said about Indian archæology and epigraphy is also true of linguistic and literary studies, as well as of ethnology, anthropology, and folklore. In these departments, too, we notice a great disproportion between works and workers.

What great results a research institute can produce is proved by the École Française d'Extrême-Orient. The vast amount of scientific work of a very high order accomplished by that school is embodied in the *Bulletin* and its numerous monographs.

What is wanted for India is a research institute on the same lines. The professors should merely guide the students in their researches, besides devoting themselves to their own work of investigation. The following subjects ought to be represented: Sanskrit (Vedic and classic) and Pali, archæology, epigraphy and numismatics, Arabic and Persian, the modern languages of India, ethnology, anthropology, and folklore. This would mean about twelve chairs at least, but the institute could very well start with a limited staff. The number of scholarship-holders ought to be restricted so as to secure the election of first-rate men. As a centre of scientific research, the proposed substitute would attract many workers from among the Indian Civil Service, the Education Department, and Missionary Societies. It could be established at Simla or some other hill station as a retreat during the summer, whereas in the cold season the members of the school would be scattered all over India, each engaged in his peculiar subject of inquiry.

THE CHAIRMAN, in thanking Professor Vogel for his contribution, regretted that the lateness of the hour precluded an adequate discussion of the important topic, which would,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

however, come up for deliberation and discussion at the final general meeting (see above, pp. 137 sqq.).

The business of the Section then terminated.

Central Asia and the Far East

THURSDAY, September 4

10.30. The chief interest attaching to this Section had been aroused by two papers read at the plenary session on the afternoon of September 3, when MONSIEUR HENRI CORDIER gave his exhaustive report on Chinese studies during the past twenty years, and MONSIEUR FINOT his interesting account of the work done for the study of archæology and ethnology in Indo-China. The attendance at the sectional sitting on September 4, with M. CORDIER as Chairman, was consequently small, only seven being present. The section had, however, presented to it two papers of exceptional interest.

1. PROFESSOR PELLIOT, *Le Texte Mongol de l'histoire secrète des Mongols*, reported on a transcription of a Mongol manuscript, giving the secret history of the Mongol, or Yuen, dynasty on the throne of the Chinese Empire, A.D. 1280–1368. The original is not available, but a Chinese scholar early in the Ming period published a transcription of it, and it is of this that Professor Pelliot had obtained a copy. The transcription gave no Mongol text, but in parallel columns it gave: (*a*) the phonetic equivalent in Chinese characters of the Mongol original; (*b*) a bald word-for-word translation of each Mongol word; (*c*) a free translation in flowing Chinese. In this way it had been possible to reconstruct the original, thus furnishing most valuable material for the historian, who had hitherto been dependent on the official Chinese Annals of the Yuen dynasty.

2. MR. LIONEL C. HOPKINS, *Notes on the Art of the Shang Dynasty Miniatures*, gave an account of the finding of the inscribed oracular bones, which within the past twenty years had been discovered in the Chinese province of Honan. These

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

were at first tentatively assigned to the early centuries of the Chow dynasty (*c.* 1122–250 B.C.); but scholars, Chinese and European, who have made them their study, are now agreed in ascribing them to the Shang dynasty (*c.* 1766–1122 B.C.). In his papers in the JRAS. Mr. Hopkins had already dealt in detail with the forms and meaning of the characters inscribed on these bone votive offerings; but he now exhibited to the Section the actual tablets, of an age exceeding, and in some cases much exceeding, three thousand years. He drew his hearers' attention to the artistic quality of the dragons and other animal forms, as well as to various other signs with which they were decorated. The chief interest and even value in the study of these inscriptions is, however, in the recovery of archaic forms of Chinese ideograms, more nearly than anything before known approaching the original hieroglyphic representations of natural objects.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ADDITIONS TO THE LIBRARY

Archæological Survey of India. Frontier Circle. Annual Report, 1918–19. *Peshawar*, 1919.
From the Government of India.

Ballard, Brig.-Gen. C. R. Russia in Rule and Misrule. *London*, 1920. *From the Publishers.*

Bloomfield, Maurice. The Life and Stories of the Jaina Savior Pārçvanātha. *Baltimore*, 1919.
From the Publishers.

Boston Museum of Fine Arts. Handbook. 1919.
From the Curator.

British Museum. Subject Index of Modern Works. By G. K. Fortescue. 1881–1900, 3 vols.; 1901–10, 2 vols.
—— 1911–15. 1 vol. *From the Trustees.*

Bureau of American Ethnology. Thirty-second Annual Report, 1910–11.

—— The Maya Indians of Southern Yucatan and Northern British Honduras. By T. W. F. Gann. *Washington*, 1918.

—— Archæological Explorations in North-Eastern Arizona. By A. V. Kidder & S. J. Guernsey. *Washington*, 1919.
From the Smithsonian Institution, Washington.

Calcutta University Commission, 1917–19. Report. Vols. vii–xii, Evidence and Documents. *Calcutta*, 1919.
From the Government of India.

Coldstream, Lieut.-Col. W. M. Records of the Survey of India. Vol. xii. *Calcutta*, 1919.
From the Surveyor-General of India.

Cosmos. La base de una faz duradera. *New York*, 1917.
From the Smithsonian Institute, Washington.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Customary Law of the Kangra District (excluding Kulu). Vol. xxviii. *Lahore*, 1919. *From the Secretary of State.*

Dastur-Meherji Rana, Dara S. Dastur Meherji Rana and the Emperor Akbar. *Bombay*, 1918. *From the Publishers.*

Deussen, P. Outline of the Vedanta System of Philosophy according to Shankara. Translated by Professor J. H. Woods & C. B. Runkle. 2nd edition. London. *From the Publishers.*

District Gazetteers of the Upper Provinces. Naini Tal. B vol., Kumaun Division. *Allahabad*, 1917. *From the Government of India.*

Dutens, Alfred. Essai sur l'Origine des Exposants Casuels en Sanscrit. *Paris*, 1883. *Presented by Madame Dutens.*

Ferguson, J. C. Outlines of Chinese Art. The Scammon Lectures of the Art Institute of Chicago. $3.20. *Chicago*, 1919. *From the Publishers.*

Foster, William. A Guide to the India Office Records. 1600–1858. *London*, 1919. *From the Secretary of State.*

Garde, M. B. A Guide to Surwaya. *Lashkar*, 1918. *From the Archæological Department, Gwalior State.*

Grundriss der Indo-Arischen Philologie und Altertumskunde, III. Band, I. Heft B. Epic Mythology. By E. Washburn Hopkins. *Strassburg*, 1915. *Bought.*

—— Pāli Literature u. Sprache. Von W. Geiger. *Strassburg*, 1916. *Bought.*

Keane, A. H. Man, Past and Present. Revised and largely rewritten by A. Hingston Quiggin & A. C. Haddon. *Cambridge*, 1920. *From the Publishers.*

Kirtikar, Lieut.-Col. & Major B. D. Basu. Indian Medicinal Plants. 2 vols. Plates. *Allahabad*, 1918. *From the Secretary of State.*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Laoust, Emile. Mots et Choses Berbères. Notes de linguistique et d'ethnographie, dialectes du Maroc. Plates. *Paris*, 1920. *From the Author.*

Lorimer, D. L. R. & E. O. Persian Tales. Written down for the first time in the original Kermānī and Bakhtiārī. Translated by D. L. R. L. & E. O. L. Illustrated by Hilda Roberts. *London*, 1919. *From the Authors.*

Macincol, Nicol. Psalms of Marāthā Saints. The Heritage of India Series. *London*, 1919. *From the Publishers.*

Mahzor, Yannai. A Liturgical work of the Seventh Century. Edited from Genizah fragments. With notes and introduction by Professor Israel Davidson and Professor Louis Ginzberg. Texts and studies of the Jewish Theological Seminary of America. Vol. vi. *New York*, 1919. *From the Author.*

Mercer, Rev. S. A. B. The Book of Genesis.

—— Religious and Moral Ideas in Babylonia and Assyria.

—— Growth of Religious and Moral Ideas in Egypt. *London*, 1920. *From the Publishers.*

Narasimhachar, R. The Kesava Temple at Belur. Mysore Archæological Series. Architecture and Sculpture in Mysore, No. 2. Plates. *Bangalore*, 1919. *From the Author.*

Narasimhacharya, Rao Bahadur R. Karnataka Kavi Charite or Lives of Kannada Poets. Vol. ii. From the Fifteenth Century to the end of the Seventeenth. *Bangalore*, 1919. *From the Author.*

Panjab District Gazetteers. Vol. vi A. Karnal District, with maps. 1918. *Lahore*, 1919.

—— Vol. xxxiv A, pt. ii, A and B. Muzaffargarh District, Leiah Tahsil with maps, 1916. *Lahore*, 1919. *From the Government of India.*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Pieris, P. E. Ceylon and the Hollanders, 1658–1796. Index. *London*, 1918. *From the Publishers.*

Rawlley, R. C. Economics of the Silk Industry. A Study in Industrial Organization. *London*, 1919. *From the Publishers.*

Sarkar, Jadunath. History of Aurangzib. Vol. iv. Southern India, 1645–89. *Calcutta*, 1919. *From the Author.*

Sarkar, J. Studies in Mughal India. *Calcutta*, 1919. *From the Publishers.*

See, Chong Su. The Foreign Trade of China. Studies in History, Economics, and Public Law. Edited by the Faculty of Political Science of Columbia University. Vol. lxxxvii. Whole No. 199. Published under the auspices of the China Society of America. *New York*, 1919. *From the Publishers.*

University of London. The Calendar, 1919-20.

—— Regulations for Internal Students, 1919–20.

—— Regulations for External Students, 1919. *From the University of London.*

Venkatasubbiah, A. Some Śaka Dates in Inscriptions. A contribution to Indian Chronology. *Mysore*, 1918. *From the Publishers.*

Pamphlets

Asakawa, K. The Life of a Monastic Shō in Medieval Japan. *Washington*, 1919. *From the Author.*

Indian State Scholarships. Pamphlet No. 6. Bureau of Education, India. *Calcutta*, 1919. *From the Government of India.*

K. R. Cama Oriental Institute. Report of the work from 1910 to 1918.

Krom, Dr. N. J. De sumatraansche Periode der Javaansche Geschiedenis. *Leiden*, 1919. *From the Publishers.*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

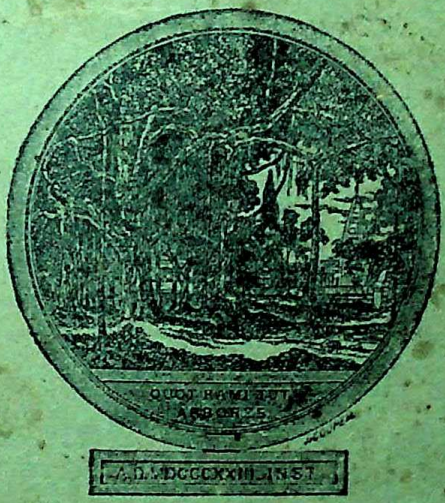
SECOND QUARTER APRIL, 1920

905

THE JOURNAL OF THE ROYAL ASIATIC SOCIETY OF *GREAT BRITAIN AND IRELAND*

With which are incorporated the Proceedings of the Society of Biblical Archaeology

April 1920



APRIL 15

PUBLISHED BY THE SOCIETY
74 GROSVENOR STREET, LONDON, W.1

Price Twelve Shillings

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

INDEX

TO THE

TRANSACTIONS AND JOURNAL

OF THE

ROYAL ASIATIC SOCIETY

FOR THE YEARS 1827–1888.

Price Three Shillings and Sixpence.

INDEX

TO THE

JOURNAL

OF THE

ROYAL ASIATIC SOCIETY

FOR THE YEARS 1889–1903.

Price Three Shillings and Sixpence.

PAMPHLETS.

A List of the Pamphlets for Sale up to 1903 can be obtained on application.

LONDON:
THE ROYAL ASIATIC SOCIETY,
74 GROSVENOR STREET, W. 1

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

सन्दर्भ ग्रन्थ
REFRENCE BOOK

ROYAL ASIATIC SOCIETY'S PUBLICATIONS

ON SALE AT THE ROOMS OF THE SOCIETY

74 GROSVENOR STREET, LONDON, W. 1

965
1

ORIENTAL TRANSLATION FUND

NEW SERIES

(1–5) REHATSEK (E.). Mīr Khwānd's "Rauẓat-us-Safā" or "Garden of Purity". 1891 to 1894. Price 10*s.* a volume (7*s.* 6*d.*).

(6) TAWNEY (C. H.). The Kathā Koṣa. 1895. Price 10*s.* (7*s.* 6*d.*).

(7) RIDDING (Miss C. M.). Bāṇa's Kādambarī. 1896. Price 10*s.* (7*s.* 6*d.*).

(8) COWELL (E. B.) and THOMAS (F. W.). Bāṇa's Harṣa Carita. 1897. Price 10*s.* (7*s.* 6*d.*).

(9) CHENERY (T.). The first twenty-four Maḳāmāts of al Ḥarīrī. 1898. Price 15*s.* (12*s.*).

(10) STEINGASS (F.). The last twenty-four Maḳāmāts of al Ḥarīrī. 1898. Price 15*s.* (12*s.*).

(11) GASTER (M.). The Chronicles of Jerahmeel. 1899. Price 10*s.* (7*s.* 6*d.*).

(12) DAVIDS (Mrs. Rhys). The Dhamma Sangaṇi. 1900. Price 10*s.* (7*s.* 6*d.*). *Out of print.*

(13) BEVERIDGE (Mrs. H.). Life and Memoirs of Gulbadan Begum. 1902. Price 10*s.* (7*s.* 6*d.*).

(14, 15) WATTERS (T.). On Yuan Chwang's Travels. Edited by T. W. Rhys Davids and S. W. Bushell. 1904–5. Price 10*s.* a volume (7*s.* 6*d.*).

(16) WHINFIELD (E. H.) and MIRZA MUHAMMAD KAZWINI. The Lawā'iḥ of Jāmī. Facsimile of an old MS., with a translation and a preface on the influence of Greek philosophy upon Sufism. Second edition, 1914. Price 5*s.* (4*s.* 6*d.*). *Out of print.*

(17) BARNETT (L. D.). Antagaḍa-dasão and Aṇuttarova-vāiya-dasão. From the Prakrit. 1907. Price 5*s.* (4*s.* 6*d.*).

(18) KEITH (A. Berriedale). The Sāṅkhāyana Āraṇyaka. 1908. Price 5*s.* (4*s.* 6*d.*).

(19, 22) ROGERS (A.). Memoirs of Jahāngīr. Edited by H. Beveridge. Vol. I, 1909. Vol. II, 1914. Price 10*s.* a volume (7*s.* 6*d.*).

सन्दर्भ ग्रन्थ
REFRENCE BO

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(20) NICHOLSON (R. A.). The Tarjumān al-Ashwaq of Ibn al-'Arabī. Text and Translation. 1911. Price 7*s.* 6*d.* (6*s.*).

(21) WARDROP (Miss M.). The Man in the Panther's Skin. By Shot'ha Rust'haveli. 1912. Price 10*s.* (7*s.* 6*d.*).

(23) WARDROP (O.). Visramiani. The Story of the Loves of Vis and Ramin. A romance of Ancient Persia. Translated from the Georgian Version. Price 10*s.* (7*s.* 6*d.*).

(24) UI (Professor). Vaisesika Philosophy, according to the Dasapadartha Sastra. Chinese Text and Translation. 1918. Price 7*s.* 6*d.* (6*s.*).

MARGOLIOUTH (D. S.). The Hesht Bihisht. (*In preparation.*)

ASIATIC SOCIETY MONOGRAPHS

(1) GERINI (Colonel G. E.). Researches on Ptolemy's Geography (Further India and the Indo-Malay Peninsula). 8vo. 1909. Price 15*s.* (12*s.*).

(2) WINTERNITZ (Dr. M.). Catalogue of Sanskrit MSS. in the R.A.S., with an Appendix by F. W. Thomas. 8vo. 1902. Price 5*s.* (3*s.* 6*d.*).

(3) HIRSCHFELD (Dr. H.). New Researches into the Composition and Exegesis of the Qoran. 4to. 1902. Price 5*s.* (3*s.* 6*d.*).

(4) DAMES (M. Longworth). The Baloch Race. 8vo. 1904. Price 5*s.* (3*s.* 6*d.*).

(5) LE STRANGE (Guy). Mesopotamia and Persia in the Fourteenth Century A.D., from the Nuzhat-al-Ḳulūb of Ḥamd-Allah Mustawfī. 8vo. 1903. Price 5*s.* (3*s.* 6*d.*). *Out of print.*

(6) BROWNE (Professor E. G.). Chahár Maqála of Nidhámí-i-'Arúḍí-i-Samarqandí. 8vo. 1899. *Out of print.*

(7) CODRINGTON (O.), M.D., F.S.A. A Manual of Musalman Numismatics. 8vo. 1904. Price 7*s.* 6*d.* (5*s.*).

(8) GRIERSON (G. A.), C.I.E. The Piśāca Languages of North-West India. 8vo. 1906. *Out of print.*

(9, 10) DAMES (M. Longworth). Popular Poetry of the Baloches. Text and translation. Two vols. 8vo. 1907. Price 15*s.* (11*s.* 6*d.*).

(11) SAYCE (Professor A. H.) and PINCHES (T. G.). The Tablet from Yuzgat in the Liverpool Institute of Archæology. 8vo. 1907. Price 5*s.* (3*s.* 6*d.*).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(12) BAILEY (Rev. T. Grahame). The Languages of the Northern Himalayas, being studies in the Grammar of Twenty-six Himalayan Dialects. 8vo. 1908. Price 5*s.* (3*s.* 6*d.*). *Out of print.*

(13) BAILEY (Rev. T. Grahame). Kanauri Vocabulary. 8vo. 1911. Price 3*s.* (2*s.* 6*d.*).

(14) LE STRANGE (Guy). Description of the Province of Fārs, in Persia, from the MS. of Ibn-al-Balkhī. 8vo. 1912. Price 5*s.* (3*s.* 6*d.*).

(15) BRANDSTETTER (R.). An Introduction to Indonesian Linguistics, translated by C. O. Blagden. 8vo. 1916. Price 7*s.* 6*d.* (6*s.*).

(16) PINCHES (T. G.). Tablets from Lagaš and other Babylonian Sites in the possession of Randolph Berens, Esq. 8vo. 1915. Price 5*s.* (3*s.* 6*d.*).

(17) GRIERSON (Sir G. A.), K.C.I.E., and BARNETT (Dr. L. D.). Lallā-Vākyāni. (*Just ready.*)

(18) BAILEY (Rev. T. Grahame). Linguistic Studies from the Himalayas. (*In the press.*)

(19) GASTER (M.). El-Asatir, or the Samaritan Apocalypse of Moses. (*In the press.*)

ROYAL ASIATIC SOCIETY
PRIZE PUBLICATIONS FUND

(1) HULTZSCH (Professor E.). Prākṛitarūpāvatāra of Simharāja. The Text in Nāgarī characters, with Notes, Introduction, and Index. 8vo. 1909. Price 7*s.* 6*d.* (5*s.*).

(2) BODE (Mabel Haynes), Ph.D. The Pali Literature of Burma. 8vo. 1909. Price 5*s.* (3*s.* 9*d.*).

(3) HULTZSCH (Professor E.). The Mēghadūta with Vallabha's Commentary. 8vo. 1911. Price 7*s.* 6*d.* (5*s.*).

(4) BRAY (Denys de S.). The Life-history of a Brāhūī. 8vo. 1913. Price 5*s.* (3*s.* 9*d.*).

(5) GRIERSON (Sir G. A.), K.C.I.E., Ph.D. Iskāsmī, Zēbakī, and Yāzghulāmī. (*In the press.*)

(6) LORIMER (Major D. L. R.), I.A. Bakhtiari Grammar. (*In the press.*)

The special price to members of the Society is printed beside the full price.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

LUZAC & CO.

46 GREAT RUSSELL STREET, LONDON, W.C.1.

Agents and Publishers to the India Office, Academy of Sciences, Petrograd, etc., etc.

LUZAC & CO. are able to supply at short notice all English, Foreign, and Oriental Books, and also have a large stock of Second-hand Oriental Books of which Catalogues are issued and can be supplied on application.

SOME NEW AND TOPICAL PUBLICATIONS.

DUBASH (P. S. G.). ROMANCE OF SOULS. A Philosophic Romance in Verse. 8vo, cloth, pp. 155. Price 5s.

—— COLOUR AND THE CHILD. With Foreword by Dr. H. HAYWARD. 8vo, pp. 40. Price 2s.

COOMARASWAMY (Dr. A.). THE DANCE OF SIVA—Fourteen Indian Essays—Hindu View of Art—Buddhist Primitives—Indian Music—Status of Indian Women—Young India—Indian Images with Many Arms, etc., etc. 8vo, pp. 139, frontispiece and 27 plates, cloth. Price 12s. 6d.

TANTRIK TEXTS.—Vol. V: Kularnava Tantra, edited by TARANATHA VIDYARATNA, with Introduction in English by ARTHUR AVALON. Price 4s. 6d.—**Vol. VI: Kulivilasa Tantra,** edited by PARVATI CHARANA TARKATIRTHA, with English Introduction by ARTHUR AVALON. Price 3s.

"WAVE OF BLISS" (Anandalahiri), a Translation and Commentary by ARTHUR AVALON. Price 2s. 6d.

"GREATNESS OF SHIVA" (Mahimnastava of Pushpadanta), a Translation and Commentary by ARTHUR AVALON, together with Sanskrit Commentary of JAGANNATHA CHAKRAVARTHI. Price 2s. 6d.

ORIGIN OF VAJRAYANA DEVATAS. By ARTHUR AVALON. Price 1s.

RAU (K. S.). THE CRISIS IN INDIA. 8vo, pp. vii, 178. Price 3s. 6d. net.

KENNY (J.). INTENSIVE FARMING IN INDIA. 2nd edition. Price 8s. 6d. net.

THE SUSHRUTA SAMHITA, AN ENGLISH TRANSLATION OF. With full and comprehensive introduction, additional texts, etc. Edited by K. K. L. BHISHAGRATNA. Vol. III: Uttara-Tantra. Completion of work. Price 21s. net.

MERCANTILE DIRECTORY OF JAPAN, 1917–18. Roy. 8vo, pp. 420. Price 7s. 6d. net.

INDIAN MERCANTILE DIRECTORY, 1918. Roy. 8vo, pp. 286, 261, and 94. Price 15s. net.

JOURNAL OF THE BIHAR AND ORISSA RESEARCH SOCIETY. Vol. III, Part IV. Roy. 8vo, pp. 425–578. Plates and illustrations. Price 8s. net.

JOURNAL OF THE SOCIETY OF ORIENTAL RESEARCH, CHICAGO. Vol. II, No. 1. Roy. 8vo. Price 6s. net.

SUN TZU on the ART OF WAR. The oldest Military Treatise in the world. Translated from the Chinese by L. GILES. 8vo, pp. liii, 201. Price 10s. 6d. net.

ARABIC MANUAL. A Colloquial Handbook in the Syrian Dialect for the use of visitors to Syria and Palestine. By F. E. CROWE. 8vo, pp. vi, 333, cloth. Price 8s. 3d. net.

A NEW PRACTICAL GRAMMAR OF THE MODERN ARABIC OF EGYPT. By S. SPIRO BEY. 8vo, pp. xiv, 251. Price 9s. 3d. net.

WORTABET (W. T.). ARABIC-ENGLISH DICTIONARY. 3rd edition, large 8vo, pp. 802, half-bound. Price £1 2s. net.

CORYN (G. G. P.). THE FAITH OF ANCIENT EGYPT. Roy. 8vo, pp. 6[illegible], with many illustrations and two folding plates in pocket, cloth. Price 4s. net.

SOANE (E. B.). GRAMMAR OF THE KURMANJI OR KURDISH LANGUAGE. 8vo. pp. xiii. 289. cloth. Price 8s. 6d. net.

VILLAGE FOLK-TALES OF CEYLON. Collected and translated by H. PARKER. Vol. III. 8vo, pp. viii, 479, cloth. Price 12s. net.

SHAHINDA (B. F. R.). INDIAN MUSIC. With a Preface by F. G. WENT. 8vo, pp. 96. Price 2s. 6d. net.

BOSE (P. N.). EPOCHS OF CIVILIZATION. 8vo, pp. 355, cloth. Price 6s. net.

DHALLA (M. N.). ZOROASTRIAN THEOLOGY. 8vo, cloth. Price 10s. net.

CHATTERJI (J. G.). KASHMIR SHAIVAISM. Being a brief introduction to the history, literature, and doctrines of the Advaita Shaiva Philosophy of Kashmir specifically called the Trika System. 8vo, pp. 166. Price 2s. 6d. net.

IN MEMORIAM. THEODORE DUKA (1825–1908). By M. AUREL STEIN, K.C.I.E. Being a Lecture read before the Hungarian Academy of Science, October 1913. With portrait. Roy. 8vo, pp. 35, boards. Price 2s. 6d. net.

MODI (J. J.). MORAL EXTRACTS FROM ZOROASTRIAN BOOKS. Medium 8vo, pp. xv, 46, cloth. Price 3s. 6d. net.

CARTWRIGHT (B. O.). THE STUDENT'S MANUAL OF THE SIAMESE LANGUAGE. 8vo, pp. 320, cloth. Bangkok. Price 12s. 6d. net.

RAO (T. A. G.). ELEMENTS OF HINDU ICONOGRAPHY. 2 vols. Roy. 8vo, pp. xxxiii, 400, 160, and 29, cloth. Madras. Price £1 10s.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

W. HEFFER & SONS, LTD.

General Booksellers and Publishers,

CAMBRIDGE.

We carry an extensive stock of Oriental Literature, of which special catalogues are issued periodically. We make a speciality of the supply of journals and other periodicals relating to the East, and librarians are invited to send lists of their lacunæ. Complete sets of the most important journals are generally in stock. We are prepared to purchase entire libraries.

A First Course of English Phonetics.

Including an explanation of the scope of the science of phonetics, the theory of sounds, a catalogue of English sounds, and a number of articulation, pronunciation, and transcription exercises.

H. E. PALMER, author of *Colloquial English.* Cr. 8vo. **2s. 6d.** net.

Colloquial English. Part I. 100 Substitution Tables.

H. E. PALMER, author of *Manuel d'Anglais parlé.* Fcap. 4to. Phonetic and orthographic texts in separate books under one cover. **2s. 6d** net.

"A most original and exhaustive book for the teaching of English by the means of Phonetics. The author, by a very ingenious tabular arrangement, has made it possible for the book to be extended from 100 tables of twelve sentences each into so vast a number of sentences that the mind is entirely unable to grasp the almost infinite possibilities of the volume."

Egyptian Colloquial Arabic—A Conversation Grammar.

By W. H. T. GAIRDNER, B.A Oxon., of the Church Missionary Society, Cairo, Superintendent of Arabic Studies in the Cairo Study Centre. Demy 8vo. **12s. 6d.** net.

"... there is no doubt that Canon Gairdner's book is a valuable contribution to modern Arabic literature and will prove a great help to those who wish to master its intricacies. I have nothing but praise for the author's labours to enrich the literature of modern Arabic with a lasting contribution . . . which I strongly recommend to all Englishmen anxious to learn the difficult but beautiful language spoken by the modern Egyptians."—Professor S. Spiro in *The Egyptian Mail.*

In preparation.

Catalogue 176. Oriental Books. Consisting of important Recent Purchases, including the Library of the late Dr. W. Hoey.

Post free upon application.

PHONETIC PUBLICATIONS.

A new volume in Heffer's Phonetic Series.

Lectures Françaises Phonétiques.

Par PAUL PASSY, Docteur ès lettres. Crown 8vo. Sewed. **1s. 3d.** net. Postage 2*d.*

A collection of interesting stories suitable for class reading.

W. HEFFER & SONS, Ltd., Cambridge, England,

and from all Booksellers.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Royal Asiatic Society of Great Britain and Ireland

74 GROSVENOR STREET, LONDON, W.1

PATRON

HIS MOST EXCELLENT MAJESTY THE KING.

VICE-PATRON

THE SECRETARY OF STATE FOR INDIA.

HONORARY VICE-PRESIDENTS

1919 O. CODRINGTON, ESQ., M.D., F.S.A.
1919 REV. A. H. SAYCE, D.LITT., LL.D., D.D.

COUNCIL OF MANAGEMENT FOR 1919-20

PRESIDENT

1894 THE RIGHT HON. THE LORD REAY, K.T., G.C.S.I., LL.D.

VICE-PRESIDENTS

1915 M. LONGWORTH DAMES, ESQ., I.C.S. ret.
1919 J. KENNEDY, ESQ., I.C.S. ret.
1918 SIR CHARLES J. LYALL, K.C.S.I., D.LITT., LL.D., PH.D.
1916 F. E. PARGITER, ESQ., M.A., I.C.S. ret.

HONORARY OFFICERS

1917 A. G. ELLIS, ESQ., M.A. (*Hon. Librarian*).
1919 R. GRANT BROWN, ESQ., I.C.S. ret. (*Hon. Treasurer*).
1920 F. W. THOMAS, Ph.D. (*Hon. Secretary*).

ORDINARY MEMBERS OF COUNCIL

1917 J. D. ANDERSON, ESQ., M.A., LITT.D., I.C.S. ret.
1917 PROFESSOR L. D. BARNETT, LITT.D.
1919 WILLIAM FOSTER, ESQ., C.I.E.
1916 DR. M. GASTER.
1917 L. C. HOPKINS, ESQ., I.S.O.
1919 SIR HENRY H. HOWORTH, K.C.I.E., D.C.L., F.R.S.
1918 F. LEGGE, ESQ., F.S.A.
1916 PROFESSOR A. A. MACDONELL, M.A., PH.D.
1915 PROFESSOR D. S. MARGOLIOUTH, M.A., F.B.A., D.LITT.
1919 H. BALLOU MORSE, ESQ., LL.D.
1919 E. S. M. PEROWNE, ESQ., F.S.A.
1917 LIEUT.-COLONEL D. C. PHILLOTT, M.A., PH.D., F.A.S.B.
1919 W. H. RYLANDS, ESQ., F.S.A.
1919 R. CAMPBELL THOMPSON, ESQ., M.A., F.S.A.
1916 MAJOR W. PERCEVAL YETTS.

SECRETARY AND LIBRARIAN

1918 MISS ELEANOR HULL.

ASSISTANT SECRETARY

1917 MISS L. B. PHILLIPS.

ASSISTANT LIBRARIAN

1919 MISS LATIMER.

HON. SOLICITOR

ALEXANDER HAYMAN WILSON, ESQ.,
Westminster Chambers, 5 Victoria Street, S.W.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ROYAL ASIATIC SOCIETY'S JOURNAL

APRIL, 1920

CONTENTS

ARTICLES

PAGE

A Passage in the Mesha Inscription, and the Early Form of the Israelitish Divine Name. By Dr. A. COWLEY 175

The Historical Position of Rāmānanda. By J. N. FARQUHAR, D.Litt. 185

The Kharoṣṭhī Alphabet. By R. D. BANERJI . . 193

Invasion of the Panjāb by Ardashīr Pāpakān (Bābagān), the first Sasanian King of Persia, A.D. 226–41. By VINCENT A. SMITH 221

Identification of the "Ka-p'i-li Country" of Chinese Authors. By VINCENT A. SMITH 227

MISCELLANEOUS COMMUNICATIONS

Bar Hebræus's Spiritual Ancestors. By A. J. WENSINCK 231

The Book of the Apple. By D. S. MARGOLIOUTH . . 231

NOTICES OF BOOKS

C. A. KINCAID, I.C.S., and RAO BAHADUR D. B. PARASNIS. A History of the Marathi People. Reviewed by H. BEVERIDGE 235

J. J. A. CAMPOS. History of the Portuguese in Bengal. By M. L. D. 238

NAGENDRANATH GHOSE. Comparative Administrative Law. By A. BERRIEDALE KEITH . . . 242

SIDNEY CAVE, D.D. Redemption, Hindu and Christian. By W. CROOKE 248

HERMANN GOLLANCZ, D.Litt. Shekel Hakodesh. By H. HIRSCHFELD 250

MAURICE BLOOMFIELD. The Life and Stories of the Jaina Savior Pārçvanātha. By R. S. 252

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

PAGE

R. NARASIMHACHAR. The Kesava Temple at Belur. By R. S. 252

The Kalpa-sūtra of Bhadrabāhu, with the Commentary Subōdhikā of Vinayavijaya Ganī. By L. D. B. . 254

H. N. KILIAAN. Javaansche Spraakkunst. By C. O. BLAGDEN 255

Paramattha dípaní or The Commentary of the Petavatthu. By M. H. B. 256

HAROLD E. PALMER. The Scientific Study and Teaching of Languages. By G. NOËL ARMFIELD . . . 258

JADUNATH SARKAR, M.A. History of Aurangzib. Vols. III and IV. By W. F. 260

H. A. WALTER. The Aḥmadīya Movement. By J. N. FARQUHAR 262

NOTES OF THE QUARTER 265

ADDITIONS TO THE LIBRARY 163, 267

TRANSLITERATION OF THE SANSKRIT, ARABIC, AND ALLIED ALPHABETS.

TITLE-PAGE AND CONTENTS FOR THE FIRST HALF-YEAR.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

JOURNAL

OF THE

ROYAL ASIATIC SOCIETY

1920

PART II.—APRIL

A Passage in the Mesha Inscription, and the Early Form of the Israelitish Divine Name

By DR. A. COWLEY

Line 18 of the Moabite Stone is frequently quoted as the only early instance of the use of the divine name outside Israel. The sentence runs as follows: ואקח משם א . . לי יהוה ואסחב הם לפני כמש. By comparison with l. 12 the lacuna was filled by אראלי, which Mr. Clermont-Ganneau long ago rejected. In l. 12 אראל is singular, its meaning is obscure, and it is used with the verb וְאֶשֵּׁב or וְאֶשְׁבְּ, which is also obscure. Here the verb is ואקח and אראלי would be plural. The two passages are therefore clearly not parallel and the reading אראלי is not convincing. Hence it has been proposed more recently to read אות כלי "the instruments of J.", a very weak phrase. As a matter of fact I believe that the passage is to be understood in quite a different way, and I suggest the reading ואקח משם אשר לי יהוה "and I took from thence what should be for myself (i.e. my own share, as king)". In order to see if the original would admit of such a reading, I made a careful examination of the stone in the Louvre in April, 1914, when Mr. René Dussaud most kindly put all the material at my

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

disposal. At the end of l. 17 nothing is left on the stone after ו. The squeeze supplies [אקח משום, after which there is a stroke | which may belong to an aleph (usually printed as certain), and with a little good will I thought I could see a trace of its head. The lines are not all of equal length. There would be room for [אושר, or, if the line is long, [אנת אשר. At the beginning of l. 18 לי יהוה is clear. The verb "to be" does not occur elsewhere in the inscription, so that we do not know its form in the dialect of Moab. But in Isaiah 16 [4] ("the burden of Moab") it has been suggested that הֱוִי is used in imitation of Moabite speech. If so, the verb was written with a ו.

As to the rest of the sentence, note first the root סחב, usually translated "drag", "I dragged the altar-hearths [whatever they are] before Kemosh" is surely a pointless remark. He would have said what he did with them when he got them there. This translation is generally supported by reference to the Arabic سحب to "trail a garment", etc. The meaning is, however, more likely to be discovered from Biblical Hebrew. The word occurs

(1) in 2 Sam. 17 [13], where perhaps it means "drag".

(2) in Jer. 15 [3], where it certainly means "to tear in pieces". The sentence marks a gradation: to kill, to tear in pieces (LXX *εἰς διασπασμόν*), to eat up the pieces, and so utterly annihilate (LXX *εἰς διαφθοράν*).

(3) in Jer. 22 [19], probably "drag".

(4) in Jer. 49 [20], "they shall tear them like lambs."

(5) in Jer. 38 [11, 12], בלוי סחבות and בלואי הסחבות "torn rags".

It does, therefore, in three places at least out of five mean to "tear in pieces". This gives a real, if grim, meaning to its use here. In l. 12, "I took away the אריאל (of ?) Doda and tore him in pieces before Kemosh." In l. 17, (of the prisoners) "I took away my share and tore [1] them

[1] I find that Neubauer took the word so in *Records of the Past*, N.S., ii. p. 201 +.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

in pieces before Kemosh". This would be as good a spectacle (if that is the meaning of רית) as the slaying of all the inhabitants of the city in ll. 11, 12. We may compare the treatment of Moab by David, 2 Sam. 8[2]. Still more illustrative is the story of Saul and the Amalekites. In 1 Sam. 15[9] Saul and the people spared Agag and the best of the sheep, etc., when they had been commanded to destroy everything (cf. 15[20], החרמתי as here). In 15[33] Samuel shows Saul his duty by hewing the captive king in pieces before the Lord. The phrase ויִשסף את אגג לפני ה׳ (LXX ἔσφαξεν, Aq. Sym. διέσπασεν) is exactly parallel to ואסחבה לפני כ׳. (The verb שסף is a ἅπαξ λεγόμενον and it has been suggested to read וישסע "tore in pieces".)

So that the אראל[1] in l. 12 was a person, for you cannot tear an altar-hearth. From that point of view there would be no objection to the reading אראלי יהוה "the Arels of J." But is the form יהוה possible for the name here? It has been generally assumed that יהוה was the original form, of which יהו and יו were abbreviations. Considered

[1] Burchardt, *Altkanaanäische Fremdworte*, ii (1910), No. 92, following Bondi, compares with it the Egyptian (?) *'ir'ir* in the Anastasi papyrus, which he translates "Held", "Streiter". Cf. also W. Max Müller, *Asien u. Europa*, p. 79. Gardiner in his edition of the papyrus (*Egyptian Hieratic Texts*, i, 1 (1911), p. 25*) thinks the context requires "guide", but Burchardt's meaning would be equally suitable. It is very probable that the two words are the same, and that the meaning is "mighty man", whether regarded as protector or as ruler and oppressor. Mr. Griffith, however, points out that *'ir'ir* "is found only in Pap. Anast., i, 23, 9, which is full of foreign (Syrian) words, and this word itself has the foreign determinative, showing that it is not Egyptian". It does not seem to be Semitic, and must therefore be a survival in Syria from some non-Semitic language (Hittite?). In the Bible אראל was evidently a difficulty, and has often been corrupted to אריאל by a popular etymology, as if "lion of God". In Isaiah 33[7] אראלם is parallel to מלאכי שלום (R.V. ambassadors) and must mean "champions" or representatives of some kind (cf. 2 Sam. 23[20], את שני אראל מואב, plural). Such a meaning is very suitable in l. 12 of the inscription. The King of Israel had built up Aṭaroth (i.e. made a fortified place of it) and the אראל was the governor appointed by him. A discussion of the word דודה would involve too long a digression here.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

without prejudice, however, the contrary seems certainly to be the case. The earliest form of the name found in any original document is in the still unpublished ostraka discovered by Reisner at Samaria. It there occurs[1] as יו in the final syllable of proper names, e.g. שמריו. ענליו. Hölscher (following Kittel) has surmised (correctly, I think, though he does not give his reasons) that it is to be pronounced יָו *Yāv* or *Yāw*. This seems to be the ultimate *Urform* of the name. In similar compounds in the Masoretic text it is written יהו-, and in the Aramaic papyri יהו is the independent form. I suggest that these forms both represent the same pronunciation (Yāw), and that at some time between the date of the ostraka from Samaria (say 900 B.C.) and the Aramaic papyri, the practice arose of writing a ה to represent a long vowel, just as in Arabic and late Hebrew an א was afterwards used. This view is perhaps not easy to accept, but it is worth considering.

At the end of a word (as ברכָה) ה is admittedly a mere vowel letter, without any aspiration or guttural sound. It seems strange that it should be so used only when final, and not in the middle of a word. Yet according to the Masoretic orthography it never quiesces in the middle of a word.[2] That it was only a later use of the letter, even at the end of a syllable, is shown by the form נעָר (for נערה) in the Pentateuch. But it seems at least probable that similarly אברהם is only a later method of writing אברָם, the ה being inserted to indicate the long *ā*, just as in mediaeval Hebrew, if it were necessary to point out the *a* as a long vowel, we might write אבראם. The Masoretes, however, have treated the medial ה in all cases as a full consonant and doubled the syllable.

[1] See the account by Hölscher in Mitt. d. Deutschen Pal.-Vereins, 1911, p. 26.

[2] In names like פדָהצור. עשהאל, however, it has been retained from the root, though not sounded.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

This view, if accepted, would lead to far-reaching conclusions. I will not apply it now to the many words in the Hebrew lexicon in which it explains difficulties, since such explanations may be regarded as subjective. The case of proper names, however, is different. These presumably had a fixed pronunciation which was more or less accurately represented in writing, at any rate at a time and place at which the name was familiar. In Sachau's papyrus 1[1] the name בגוהי is generally transliterated as Bagohi. It is evidently a compound of the Old Persian *Baga*, whatever the second part may be, and is the same name (though not necessarily the same person) as the בִּגְוַי (or וַי-) of Ezra 2 [2, 14], 8 [14], and Neh. 7 [7, 19], 10 [16], which appears in Greek under varieties of the form, *Βαγουαί*, *Βαγοεί*, or Græcized as *Βαγώας*. These forms can only be reconciled if they go back to an OP. *Bagawāiy. The *h* would not have been dropped in Hebrew at the time of Ezra if it had been original. On the other hand, if ה was used to represent long *ā*, it may well have been written in Aramaic, where the necessity was felt of making the pronunciation clear by this device, although the practice had not yet been adopted in Hebrew when Ezra wrote. The *ω* in *Βαγώας*, or the *ο* in *Βαγοεί*, or the *ου* in *Βαγουαί* was the nearest representation of ו (= English *w*) which was possible in Greek.[1] (The accent was not a stress accent.) In the papyri then the name was pronounced Bagawâi.

Another illustration is the name Darius as it appears in the Elephantine papyri. In his own inscription at Behistun, where presumably his name would be spelt correctly, he is called (taking Weissbach's transcriptions) in O.P. Dāraiauauš, in Elamite Dariiamauiš, and in Babylonian Dariiamuš, where the last *a* is absorbed in the

[1] Similarly in pure Greek words an *ο* often represents *F* (= *w*), as in *οἶκος*, *οἶνος*, for *Fῖκος*, *Fῖνος*, not for *Foῖκος*, *Foῖνος*. Cf. *Οαδδω* = דוד in the Minæan-Greek inscription from Delos, *Rev. Sém.* 1909, p. 402.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

u (the *m*, of course, in Babylonian represents also the sound of *w*). In the Biblical texts it is consistently spelt דָּרְיָוֶשׁ (Hebrew, Hag. 1 [1], 2 [10]; Zech. 1 [1, 7], 7 [1]; Dan. 11 [1], 9 [1]; Ezra 4 [5]; Neh. 12 [22]. Aramaic, Dan. 6 [1, 29]; Ezra 4 [24], 5 [5, 7], 6 [1,12–15]). Probably the original vowels were דָּרְיָוֶשׁ, agreeing with the Babylonian form with which Ezra was familiar. It was afterwards corrupted to the present easier form, and the spelling made consistent by the Masoretes in all passages.

If the form דריוש was used by Ezra, it would be current till at least 450 B.C. It is noticeable that of the three spellings occurring in the papyri, this form is found only once, in a document (Sachau No. 30) dated by Sachau (and, I think, rightly) in 494 B.C., i.e. it is copied, like that in Ezra, from the Babylonian pronunciation. It is the earliest attempt at representing the sound of the name. The next extension of the spelling in the papyri is דריהוש, in the Aramaic version of the Behistun inscription, which appears on several grounds to have been written down in its present form about 430–420 B.C. I take this spelling to represent the same (Babylonian) pronunciation, since the Aramaic follows closely the Babylonian version throughout, viz. Dariyawuš, the ה being simply inserted to show that an *a* is to be sounded after the י, since otherwise the name might be read Dariyûš (much as it was in Greek).

The third form of the name, and the commonest, is דריהוש, which I take to represent the real Persian pronunciation, Darayawauš—the ה again being used to indicate the *a*, the first ו consonantal and the second vocalic.

Thus: דריוש = Bab. Dariyawuš
occurs once (pap. 30 [1]) in 494 B.C.
דריהוש = Bab. Dariyawuš
occurs 4 times (pap. 62, ii [5]) *c.* 430 B.C.
(pap. 1 [19,21,30]) in 407 B.C.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

דריוהוש = O.P. Darayawauš
occurs 13 times (pap. 1 [2,4]) in 407 B.C.
(pap. 2 [2,4,19]) in 407 B.C.
(pap. 3 [7]) *c.* 407 B.C.
(pap. 6 [3]) in 419 B.C.
(pap. 29 [1,5]) in 409–405 B.C.
(Strasb. A [2]) in 410 B.C.
(Sayce-Cowley H [1]) in 420 B.C.
(S.C. J [1]) in 417 B.C.
(S.C. K [1]) in 411 B.C.

There are also three places (9 [28], p. 204 and p. 222) where the reading is uncertain.

It must not be forgotten, of course, that *u* and *hu* are not distinguished in O.P. That question[1] need not be discussed here. Though the pronunciation *hu* might be supposed (wrongly) to explain the spelling דריוהוש, as if it were Darayawahuš, it could not explain דריהוש (as Darayahuš), since a syllable would then be wanting. The view that ה is used as a vowel letter does explain both spellings.

Putting aside, then, the doubtful readings, all the cases in which ה is so used in this name occur from about 430 B.C. onwards. It is not so used in papyrus 30 (494 B.C.), so that the practice would seem to have been introduced between 494 and 430 B.C.

Other instances of the same use of ה in the version of the Behistun inscription are אהורמזד = Auramazda, and והומים = Vaumisa.[2]

If a case has been made out for this use of ה in Aramaic, we may reasonably assume that it was also employed in the same way in Hebrew of the same date, at any rate

[1] See Weissbach, *Die Keilinschriften der Achämeniden*, 1911, p. lxv.
[2] So in O.P. cf. Elam. Maumišša, not for Vahumithra, as Sachau (and Justi), since Mithr- is found in the papyri, so that the change had not yet taken place. Greek Ὦμισος.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

for a time. This explains the later form אברהם (in P.) for אבְרָם. It was merely another way of writing the name (as later we might have had אבראם) in certain documents. A reason for the sudden change had to be found by the compiler of Genesis, but there is no need for us to speculate on רהם as a weakening of רחם.[1] It also explains the development of NH מהל from BH מול, and other forms of the kind. The 3rd sing. perf. Ḳal was מָל. This was written מהל, the ה representing the long vowel, and was then (later) treated as a triliteral, the ה artificially becoming the second radical. Hence the participle מֹהֵל, not found in BH.

Now to return to the form of the divine name. As found in the papyri יהו on the above theory is only another way of writing יָו, the Urform appearing on the ostraka from Samaria. It is therefore not Semitic in origin, and the attempt to explain it as derived from הוה or היה as in Exod. 3[14] is no more to be taken as serious etymology than the derivation of מָן "manna" in Exod. 16[15].

The further development of the name by the addition of a final ה requires some discussion. Cuneiform evidence would here be of the greatest value, if it were certain, but experts differ so much in their conclusions that they cannot be used with confidence.[2] I will only quote the opinion of Ungnad (in the preface to his edition of Sachau's papyri, pp. iii, iv): "The fullest form of the name . . . occurs in Babylonian documents of the fifth century [B.C.] from Nippur, in which numerous Jewish names appear compounded with Yâma (pronounced Yâwa)."[3] He then compares such forms as שָׁחוּ, which

[1] Even if a name Abaraḥam be found in Babylonian. See Clay, *The Empire of the Amorites* (1919), p. 41.

[2] e.g. S. Daiches in ZA. 1908, p. 136, sums up the results of his inquiry in the statement "that the Tetragrammaton יהוה has so far not been found in cuneiform inscriptions".

[3] But even this does not necessarily represent the form יהוה. The

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

he assumes to be shortened from *śaḥwa. But the opposite is really the case. The ground-form of שָׁחוּ, as Ungnad very well knows, is *sŏḥw (Kautzsch, Heb. Gram., §§ 84ᵃ, *c*, *e*, 93 *x–z*, 95 *d–f*). This was difficult to pronounce, and so became either *saḥwa or שָׁחוּ. Similarly the Urform יו came to be written יהו, and then the pronunciation was eased by the addition of a final vowel (ה = *a*) as in Babylonian, but whether on the analogy of שחו, etc., or not, does not matter. No wonder that the true pronunciation of the name was regarded as a mystery! Meanwhile in compound names, which could not be altered in form, the original יו and יהו were preserved, though variously vocalized as יוֹ, יָהוֹ, יְהוּ. The tetragrammaton itself is never found in compounds, since later names (i.e. those formed after the tetragrammaton came into existence) are all made on the early models. If the long form were original, one cannot imagine a people habitually shortening the name of their deity, especially as it was regarded with such special reverence. Such a practice would be contrary to all experience.[1] Note also that the revelation of the tetragrammaton in Exod. 6[2] (like the change of אברם to אברהם) belongs to the document P.

If, then, everything seems to show that the early (or at least pre-Exilic) form of the name was Yāw, we are not justified in assuming that the longer form could be used by Mesha in 850 B.C. without very strong evidence—and if יהוה in Mesha l. 18 is not the Name, it can only be the verb "to be". In that case the proposed restorations

addition of the final vowel may be simply a device to ease the pronunciation of Yāw in Babylonian.

[1] The termination יה- in names is not to be regarded as a shortening of יהו-, but simply as a *Koseform*, perhaps derived from Hittite usage. It may have been due to a desire to avoid pronouncing the divine name, just as יהו- is entirely dropped, e.g. in הושע for [הו]שעיה, cf. Bab. Mannuki for Mannu-ki-ilu. The form יה, used independently or in הללויה, is purely orthographic (like the later י״ר, etc.), the mappik being the mark of abbreviation.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

אוראזלי and את כזלי are alike impossible, and [אשר or [את אשר seems to be necessary. "But I took away that which should be for myself and tore them in pieces before Kemosh." Whether "them" means the rest of the 7,000 men, etc., or those whom he took for himself, is not clear. Probably the latter. It is a *constructio ad sensum.*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Historical Position of Ramananda

By J. N. FARQUHAR, M.A., D.Litt. (Oxon)

I WAS fortunate enough to be able to visit the great Kumbh Mela at Allahabad in February, 1918. There I found that Śaṅkara's Daśnāmī sannyāsīs were more numerous than any other group of ascetics, and that next to them in numbers came the Rāmānandī Vairāgīs. This illustrates the fact that in the history of religion in North India Rāmānanda is one of the very greatest figures. Yet very little is known about him with certainty. Hitherto his date, life, sect, teaching, attitude to caste have all been uncertain. Is it possible to-day to throw any light upon his historical position ?

We take his *date* first. The traditional dates are 1299–1410. The great age to which this makes him live is at least suspicious, so that the statement requires to be tested ; and since his immediate predecessors and all his chief disciples are known, we may be able from their chronological position to realize when he lived.

The Sikh *Granth* shows us that Sadna, Benī, Nāmdev, and Trilochan were harbingers of the movement and immediate predecessors of Rāmānanda. Now the date of Nāmdev, the greatest of the four, seems to be finally settled. He is a most interesting figure, for he belonged to the Marāṭhā country, was a devotee of Viṭhobā of Paṇḍharpur, and left a considerable body of Marāṭhī hymns ; yet he was also a noteworthy leader in the North, for a temple erected to his memory is still in use at Ghumān in the Punjab ; and a large number of Hindī hymns composed by him are preserved in the *Granth*.[1] There is no definite tradition as to his date preserved in the Marāṭhā country, but an old story represents him as having once met Jñāneśvara, the author of the *Jñāneśvarī*, a

[1] Macauliffe, *The Sikh Religion*, vi, 17 ff.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Marāṭhī poem on the *Gītā* written in A.D. 1290. Hence, most inquirers have been inclined to make him a contemporary of Jñāneśvara. But Bhandarkar [1] has shown that this is impossible; his Marāṭhī is at least a century later than the language of the Jñāneśvarī, and his references to Muhammadans and to idolatry imply a date not earlier than 1400. This argument is confirmed by one of his own Marāṭhī hymns in which he speaks of Jñāneśvara and the other Bhaktas contemporary with him as belonging to a time long past.[2] Finally, the date which is given for his Hindī hymns in Balesvara Prasad's *Santbānī Saṅgraha* is 1423. We must, therefore, think of Nāmdev as flourishing from 1400 to 1430 or thereabouts. If, then, he was an immediate forerunner of Rāmānanda, the natural inference is that the latter's career opened somewhere about 1425 or 1430.

We take Pīpā next, Rāmānanda's royal disciple, rājā of Gagarauṅgarh. The date of his birth is definitely given by Macauliffe [3] as 1425, which fits perfectly into the chronology already suggested. He may have become a disciple in 1445 at the age of 20.

Take Kabīr next. It is clear that he died in 1518, but two dates are given for his birth, 1399 and 1440. Clearly the latter [4] is much more likely to be right than the former, for, even so, he would have a life of 78 years. This, again, fits in well, for if, as tradition says, he became a disciple when a boy, he might have joined Rāmānanda in 1455, when 15 years of age.

Fresh information, received recently from the Palace records of Udaipur, makes it plain that Mīrā Bāī the poetess was the wife of the eldest son of Kumbha Rānā of the Newar State, but that he died before coming to the throne. The Rānā was murdered in 1469 by one of his surviving sons, and was succeeded by another. Mīrā Bāī, rather ungraciously

[1] *Vaiṣṇavism, Śaivism*, etc., 92.
[2] Macnicol, *Psalms of Marāṭhā Saints*, 40.
[3] Op. cit., vi, 111.
[4] A.D. 1440 is accepted by Westcott, Burn, and Rabindranath Tagore.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

treated by her brother-in-law, the new Rānā, left Chittore and became a disciple of Rai Dās, Rāmānanda's Chamār disciple. She mentions him twice in her lyrics. Now, if Mīrā Bāī left Chittore about 1470, it would seem that Rai Dās had by that time set up as an independent teacher and Rāmānanda was probably dead.

Thus, if we suppose that Rāmānanda's activity as a teacher stretched from 1430 to 1470, our conjecture will fit into all the chronological data we have found. Kabīr would then have forty-eight years of life as a teacher after his master's death, 1470–1518. We therefore conclude that it is probable that Rāmānanda was born about 1400, began teaching about 1430, and died about 1470.

We next take the question of his teaching and his sect. Tradition declares that he came from the South and connects him with Rāmānuja, but also avers that a quarrel led to a breach with the sect. Sometimes we are told that the only result of the breach was that Rāmānanda used greater liberty in social matters than was allowed in Rāmānuja's community, sometimes the differences are made more serious, but in any case he is represented as faithfully teaching Rāmānuja's system, using the same mantra and remaining in the same sampradāya.

Now this statement seems to contradict the plainest facts. The Śrī-Vaishṇava sect, of which Rāmānuja is the chief glory, has throughout the centuries adored Śrī and Vishṇu (hence its name), called Vishṇu the eternal Brahman of the Upanishads, and has acknowledged all the incarnations of Vishṇu, giving special prominence to Kṛishṇa, but worshipping Rāma also with fervour, and giving Narasiṁha and the other avatāras due honour. The teaching of Rāmānanda, on the other hand, as is clear from the uniform practice of his disciples, was altogether centred in Rāma and Sītā, while Kṛishṇa and the other incarnations, and even Vishṇu himself, received no attention. Rāma is regarded as the eternal God, the only means of release. This surely is in itself a very

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

large difference. Nor is there the slightest evidence that he ever taught the Viśishṭādvaita system. In the teaching of his disciples there are many advaita elements, and here and there the Bhedābheda philosophy is referred to, but never Rāmānuja's special system. Again, the mantra of the Śrī-Vaishṇava sect is *Oṁ namo Nārāyaṇāya*, while Rāmānanda's mantra is *Oṁ Rāmāya namaḥ*. The Rāmānandī sect-mark also is not the same as the Śrī-Vaishṇava, though it is akin to it. Finally, if Rāmānanda had belonged to the Śrī-Vaishṇava sect, he would have belonged to the order of Śrī-Vaishṇava sannyāsīs, named Tridaṇḍīs, an order very similar to Śaṅkara's sannyāsīs, yet quite distinct. What order of ascetics he did belong to we do not know, but his followers are not sannyāsis at all, but merely sādhus called Vairāgis, and it is most likely that they perpetuate the order to which their leader belonged.

Thus, in matters of teaching and sect, the differences between Rāmānanda and Rāmānuja are very great, so great, indeed, as to fill one with grave suspicion of the tradition. Is no better explanation of the facts possible ?

I wish to call your attention to a Bhakti sect which existed in South India in mediaeval times, a sect which regarded Rāma as the eternal God and the only means of release, and used Vālmīki's *Rāmāyaṇa* as their sacred book.[1] Students of the *Rāmāyaṇa* are aware that in books ii and vi Rāma appears as a man, and only a man, while in the first book, which all scholars recognize to be a later addition, Rāma and all his brothers are partial incarnations of Vishṇu. Only in one passage, interpolated into the sixth book, is Rāma raised above all gods and called the eternal Brahman.

Now our sect in reading the *Rāmāyaṇa* seem to have been gravely troubled by the passages in which Rāma is represented as a mere man, and also by the episode of Sītā's captivity in Rāvaṇa's power. The *Adhyātma Rāmāyaṇa* was, therefore,

[1] From *Adhyātma Rāmāyaṇa*, III, x, 25, it appears likely that they also used the Rāma-tāpanīya Upanishads : Deussen, *Sechzig Upanishads*, 802 ff.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

written to meet these difficulties. It is a Sanskrit poem, which tells the whole story afresh in seven books, each bearing the same title as the corresponding book of the early epic. But Rāma is throughout called the eternal god; release is obtainable in him alone, and fervent Bhakti is the path to release. When Rāma at any point talks as a man, it is explained that his divine consciousness is temporarily clouded by *māyā*. The theology is *advaita* throughout, but Śākta elements are added so that Sītā has a place beside the eternal Rāma. In order to shield her from the reproach of having been carried away by Rāvaṇa and kept in his harem, this new *Rāmāyaṇa* says she entered the fire, leaving only an illusory Sītā behind her, before the first appearance of Rāvaṇa, and the real Sītā does not reappear until the fire ordeal at the end of the story. The poem contains the *Rāma-hṛidaya* in eight ślokas and the *Rāma-gītā* in fifty-six ślokas, compendia of doctrine for the use of ascetics, meant to be committed to memory and constantly repeated. A Rāma-mantra is commended, and rules for worship are given, drawn from a manual called the *Agastya Saṁhitā*. There are numerous references in the poem to this *Agastya S.*, and some of these passages enable us to see that it is the form of a dialogue, the interlocutors being Agastya and a disciple named Sutīkshṇa. Those of my readers who have been using Schrader's monograph on the Pāñcharātra Saṁhitās may have noticed that the first work in his list is an *Agastya Saṁhitā*, bearing the sub-title *Agastya-Sutīkshṇa-saṁvāda*, so that the book survives in the South.

In these two works, then, we have a South Indian sect revealed which regarded Rāma as the eternal god, the only source of release, and which sought release by Bhakti. The sect used a Rāma-mantra, and had its own ascetics. Thus far I have found no Rāma-sect surviving in the South to-day, but there are numerous Rāma-Bhaktas, remnants, doubtless, of the mediaeval sect.

Now I am inclined to believe that Rāmānanda was an

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ascetic belonging to this sect, and that he came to the North, bringing its doctrine with him. If that conjecture is accepted, every fact about him and his sect then falls into place quite naturally. He would bring with him the doctrine that Rāma is the eternal god, and that men should seek release in him by means of Bhakti. He would bring the Rāma-mantra, *Oṁ Rāmāya namaḥ*, with him, and he would be a simple ascetic, a Rāma-Bhakta and not a sannyāsī. The Rāmānandi sect-mark, similar to the Śrī-Vaishṇava *tilaka*, yet distinct from it, is then explained. He would also bring with him to the North the *Adhyātma Rāmāyaṇa* and the *Agastya-Sutīkshṇa Saṁvāda*. Now we cannot prove that he brought the *Adhyātma Rāmāyaṇa* with him, but it was the only *Rāmāyaṇa* in existence in his day which taught his doctrine, that Rāma is the eternal god, the only source of release; and it is clear that it was much used by his followers, for it is the most important of all Tulsī Dās's sources, and all Rāmānandī ascetics know it and use it to-day. The presence of many *advaita* elements in the teaching of Rāmānandīs thus finds ample explanation. Nor can we prove that he brought the *Agastya-Sutīkshṇa Saṁvāda* with him, but it is exceedingly probable that he did, for quite recently a Hindī translation of several chapters of the work was published, and Rāmānanda's biography forms part of it.[1]

We therefore believe that Rāmānanda was an ascetic belonging to the sect which produced the *Adhyātma Rāmāyaṇa*, that he came to the North about 1430, and that he had so much success in preaching the doctrine of the sect that he decided to stay and took up his residence in Benares. Further we would suggest that though he was not a Śrī-Vaishṇava, it is altogether probable that he was accustomed to use Rāmānuja's *Śrī-Bhāshya*, for though it is written from the Śrī-Vaishṇava point of view its clear and moderate doctrine of theism made it a most attractive work to all the theistic

[1] Bhandarkar, *Vaiṣṇavism, Śaivism*, etc., 67, n. 2.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

sects. This would explain its occasional use by his followers to-day, and also would explain the notable fact that no Rāmānandī Bhāshya has ever been written. During the early decades of the movement the newly fledged Bhaktas of the North would also be glad to link themselves with the illustrious scholar of the South. In this way there would grow up a feeling of kinship with the sect of Rāmānuja which would form quite sufficient basis for the tradition which has hitherto misled us.

Rāmānanda's attitude to the rules of caste deserves notice also. Some scholars have written as if he had thrown the caste-system to the winds, socially as well as religiously, but so far as my knowledge goes there is no evidence that he modified the social rules of caste in the slightest. Certainly Tulsī Dās was an orthodox Brāhman; his poem is thoroughly orthodox in social matters, and Rāmānandīs to-day are quite as orthodox as ordinary Hindus are. It is true Rāmānanda did not follow the rules of Rāmānuja in matters of diet, but that is simply an additional proof that he was not a Śrī-Vaishṇava Brāhman, for they are most punctilious of all Brāhmans. Further, there is no evidence that he interfered with Brāhman privileges in any particular. In every Rāmānandī temple to-day the priest is a Brāhman. Further, his complete neglect of all caste-distinctions in the acceptance of disciples is scarcely a novelty, for the Bhakti sects had recognized long before his day that not only men of any caste but outcastes also could, by means of Bhakti, press on to spiritual religion and release. But he seems to have gone one step farther than any of his predecessors. Among his personal disciples we find not only a Śūdra, a Jāt, and an outcaste, but a Muhammadan and at least one woman. In this extended freedom we see evidence of Muslim influence. Certain Hindu and Muhammadan teachers in the fifteenth century were ready to receive both Hindus and Muhammadans as disciples, and there was a tendency to recognize both religions as in some sense legitimate.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Like the Marāṭhā Bhaktas, Rāmānanda may have criticized idolatry, but there is not the slightest sign that he or his followers in the direct line gave up Hindu worship. It was Kabīr who initiated the practice of eschewing all idolatry as wrong. What is to be recognized in Rāmānanda and all his followers is their vivid faith in the reality of the one personal god, spiritual and invisible, whom they called Rāma. Yet, in spite of this vivid faith, no break was made with idolatry, the Hindu pantheon, or the old mythology. Kabīr was the first to preach a theism so real and consistent that it would tolerate neither gods nor idols nor myths.

The last point we notice is the unbroken custom among Rāmānandīs of using the vernacular for their literature. The same is true of all the sects dependent on Kabīr. It had long been customary in the chief sects to use the vernacular as well as Sanskrit, but the Marāṭhā Bhaktas and Rāmānanda practically gave up the use of Sanskrit altogether.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Kharosthi Alphabet

By R. D. BANERJI

Introduction

KHAROṢṬHĪ or Kharoṣṭrī is the name of a particular script used in Afghanistan, the Punjab, and portions of Central Asia from the fourth or fifth centuries before Christ to the third or fourth centuries of the Christian era. In the third or fourth centuries A.D. it gradually went out of use, the place being taken by one or more forms of the mediaeval Brāḥmī. In the eighteenth century the earlier generation of epigraphists and archæologists used to call this script "Bactrian", "Indo-Bactrian", "Bactro-Pali", "Ariano-Pali", etc. Then it was identified with the *Kharoṣṭhī* or *Kharoṭṭhī lipi*, on the evidence of the *Fa-wan-shu-lin*.[1] The Chinese work describes the "ass-lip" (*Khara-oṣṭha* in Sanskrit) script, invented by one Kharoṣṭha,[2] in which the writing ran from the right to left. This identification, proposed by George Bühler,[3] has since met with general acceptance.

The earliest and the only scientific treatment of the Kharoṣṭhī script was that by Bühler in his classic work on Indian Palæography. Modern explorers have proved by their discoveries that the use of the Kharoṣṭhī script was not limited to the ancient province of Gandhāra, and that it was at one time very largely used by the inhabitants of the desert tract in Central Asia to the south-west of Kashgar and Khotan.

Kharoṣṭhī is a modified form of the older variety of the Aramaic script. The close connexion between Kharoṣṭhī and Aramaic was noticed for the first time by E. Thomas.[4] He observed that *na, ba, ra,* and *va* in Kharoṣṭhī agreed with the

[1] *Babylonian and Oriental Record*, vol. i, p. 59.
[2] *Vienna Oriental Journal*, vol. ix, p. 66.
[3] *Indian Studies*, iii, p. 113.
[4] Prinsep's *Indian Antiquities*, edited by Thomas, vol. ii, pp. 144 ff.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Aramaic letters for the same sounds, and was likewise written from the right to the left. Isaac Taylor [1] and Alexander Cunningham [2] gave definite shape to this theory and assigned to the Achæmenian conquerors the introduction of the Aramaic script into India. The Aramaic script was very largely used in Assyria and Babylon, and most probably it was used by the officials of the Achæmenian Empire. The officials in the Indian satrapies must have used this script. This supposition has been confirmed by the discovery of an Aramaic stone inscription among the ruins of Taxila.[3] Indian scribes seem to have modified the script so as to suit the requirements of Indian dialects. Hence the appearance of Kharoṣṭhī as a script different from Aramaic.

The oldest Kharoṣṭhī forms are to be found on certain coins of the Achæmenian sovereigns, on which single letters or syllables of both Brāhmī and Kharoṣṭhī are to be found.[4] But the oldest Kharoṣṭhī inscriptions known are the Aśoka edicts of Shāhbāzgaṛhī and Mānsehra. Bühler divided Kharoṣṭhī records into four groups :—

(1) The Maurya : "the archaic one of the fourth and third centuries B.C., found in the Aśoka edicts of Shāhbāzgaṛhī and of Mānsehra, with which the signature in the Aśoka edicts of Siddapura, the legends of the oldest coins, and the syllables on the Persian *sigloi* fully agree."

(2) "The variety of the second and first centuries B.C. on the coins of the Indo-Grecian kings, which is imitated by some later foreign kings."

(3) "The variety of the Śaka period, first century B.C. to first century A.D. (?), on the Taxila copper-plate of Patika, and on the lion capital of the satrap Śoḍāsa or Śuḍāsa from Mathura, which occurs also on some sculptures from Gandhāra, on the Kaldawa (*Kaldarra*) stone, and on the coins of several Śaka and Kuṣana kings."

[1] *The Alphabet*, vol. ii, p. 261.
[2] *Coins of Ancient India*, p. 33.
[3] JRAS. 1915, pp. 191 ff.
[4] Ibid. 1895, pp. 865 ff.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(4) "The strongly cursive script of the first and second centuries A.D. (?), which begins with the Takht-i-Bahi inscription of Gondopherres, and is fully developed in the inscriptions of the later Kuṣana kings Kaniṣka and Huviṣka, and occurs also in the MS. of the Dhammapada from Khotan."[1]

Recent discoveries by French, German, and English explorers in Central Asia will necessitate the addition of a fifth group, which will comprise all Kharoṣṭhī manuscripts found in Central Asia and into which naturally the Dutreuil de Rhins manuscript of the *Dhammapada* will have to be transferred. Bühler's classification has met with general acceptance, but in a debate on the date of Kāṇiṣka Dr. J. F. Fleet reopened the question. He was of opinion that the third and fourth groups are really one and the same, and said, "And I think that, if a comparison is made of the absolute facsimiles of the Taxila and Wardak records, consideration being given at the same time to the points mentioned above, it will be agreed that no grounds remain for saying either that the Kushān Kharoṣṭhī alphabet is later than that of the 'Sakas', or vice versa."[2]

Immediately before this statement Dr. Fleet had objected to Dr. F. W. Thomas' pronouncement that "the Kharoṣṭhī of the Kaniṣka group is of a cursive type, obviously later than that of the Śaka satraps of Taxila and Mathura", because the latter had referred to Bühler's *Indische Palaeographie* in support of his statement, where in columns 8, 9 a Kharoṣṭhī alphabet from the "Śaka" inscriptions, and in columns 10–12 an alphabet from the Kushān inscriptions are to be found.[3]

Dr. Fleet objects to Dr. Thomas' statement, quoted above, on five different grounds :—

(1) "Now, in the first place, an artificial contrast between the two alphabets has been created by the style in which they have been figured. The alphabet in columns 8, 9 has

[1] Bühler's *Indische Palaeographie*, Eng. trans. by Dr. Fleet, pp. 24–5.
[2] JRAS. 1910, p. 976.
[3] Ibid., p. 975.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

been drawn in broad thick strokes, but that in columns 10-12 in quite thin ones."

This defect, if it really be a defect, is impossible to remedy, if one has to reproduce an alphabet made up from cuttings of exact mechanical impressions or estampages. If one record is really written in thick broad strokes, as the Aśoka edicts of Shāhbāzgaṛhi and Mānsehra really are, and another in thin strokes, then it is quite natural that in illustrations they should appear as they are. It would be difficult to prove that even in Tafel i of the *Indische Palaeographie*, which is reproduced from freehand drawings, the attempt to reproduce exact forms was not made. This objection is trifling and does not need close attention.

(2) "Secondly, the figuring of these alphabets takes no notice of the fact that in the Taxila records, one of the bases of columns 8, 9, and in the Wardak record, one of the bases of columns 10-12, the letters were made not by continuous strokes (as shown in Bühler's plate), but by lines of punched dots." [1]

(3) "Thirdly, the original records, from which these alphabets have been put together, come from different localities and were written by different hands." [1]

I do not think that it has been really possible for anybody who has attempted to write on systematic palæography to produce specimens of writing by the same person, living in different centuries or widely divergent historical periods. Nor has it been possible for any palæographer to base his work on the calligraphy obtained from one particular locality of a particular country. In a particular period of the history of a country, or in a particular century or part of one, the general tendency of scribes is to follow particular modes of writing. A comparison of different modes of writing, belonging to different historical periods or centuries, very often from different localities, so as to bring out clearly the

[1] JRAS. 1910, p. 975.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

evolutions of a particular alphabet, is the object of palæography.

(4) "Fourthly, columns 8, 9 appear to be based chiefly on the Mathura inscriptions, which are on stone; whereas columns 10–12 are based almost entirely on the Sue Vihar record, which is on metal; and there can often be traced in Indian records a tendency to use a more cursive style of writing for those on metal than that favoured for the records on stone." [1]

(5) "Fifthly, the Kharoṣṭhī writing was of a loose style which lent itself very easily to different kinds of treatment, with results which are apt to be confusing." [2]

The last statement is very ambiguous. The same argument may be applied with equal force to the Brāhmī of any period and more particularly to manuscript palæography, a branch of Indian palæography which, since the discovery of Central Asian manuscripts, has received more attention from careful scholars than any other branch of the subject. Moreover, the Kharoṣṭhī of the Taxila Silver [3] and Copper Plates [4] is a very definite, well-formed alphabet, suited, as well as Brāhmī, for the single and double sounds of the North Indian dialects. It would be unjust, if we take Dr. Fleet's fifth objection seriously and regard it as a writing of loose style which lent itself very easily to different kinds of treatment. For example, if we take the Brāhmī Kuṣaṇa records from Mathura, do we not find a similar case? The writing of the Jaina–Kuṣaṇa–Brāhmī records of Mathura is careless and cursive, whereas that of the Buddhist–Kuṣaṇa–Brāhmī records of the same locality and period is non-cursive.[5] In spite of this, anyone who has examined a number of Mathura inscriptions carefully can at once tell the difference between a Jaina–Kuṣaṇa–Brāhmī record and a Gupta one. A prolonged

[1] JRAS. 1910, pp. 975–6. [2] Ibid., p. 976.
[3] Ibid. 1914, p. 973, and 1915, p. 191.
[4] *Epigraphia Indica*, vol. iv, pp. 54 ff.
[5] *Indian Antiquary*, 1908, p. 51.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

examination of Kharoṣṭhī records, specially the dated ones, on the same lines on which I treated Brāhmī records of the Scythian period, leads me to believe that Dr. Fleet's dictum is too premature. It appears that the fifth argument against Dr. Thomas' pronouncement on the relativity of Bühler's third and fourth group of Kharoṣṭhī epigraphs was placed on record before a thorough examination of the peculiar characteristics of the alphabets used in the epigraphs of these two groups was made; because after such an examination I find the contrary of Dr. Fleet's statement to be the only possible and true one. The second and fourth objections of Dr. Fleet are real objections. In my monograph on the Scythian period of Indian history I have drawn attention to the fact that one great defect of Bühler's treatment of the development of the Kharoṣṭhī alphabet was the use of the letters of the Sue Vihar Copper-plate inscription as the prototype of the alphabet of the Kushān period. The real objection is the use of the alphabet of a record on metal for comparison with others of stone; in fact, it is the fourth objection of Dr. Fleet against the statement of Dr. Thomas.

It is evident from Dr. Fleet's opinion on the importance of the evidence of Kharoṣṭhī palæography as to the date of Kāniṣka that a fresh palæographical examination is absolutely necessary, in which records of stone and metal are to be compared separately. Such a treatment of Kharoṣṭhī palæography was not possible when Bühler wrote his work. But it has become so now on account of the publication of a number of old records with good mechanical facsimiles and the discovery of some new ones during the last twenty years. The inscriptions on the Wardak[1] Vase and the Mathura Lion Capital[2] have been republished. Beside the new stone inscriptions published by me eight years ago,[3] two other important Kharoṣṭhī records have been discovered during the last few years. These are the Peshawar Relic Casket

[1] *Ep. Ind.*, vol. xi, p. 210. [2] Ibid., vol. ix, pp. 135–47.
[3] *Ind. Ant.*, vol. xxxvii, 1908, pp. 58, 64–6.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

inscription of Kāṇiṣka,[1] and the Taxila Silver-plate inscription of the year 136.[2]

With the exception of the Shāhbāzgaṛhī and Mānsehra edicts of Aśoka, the inscriptions on the Mathura Lion Capital and the Peshawar Relic Casket inscription of the time of Kāṇiṣka, there are very few Kharoṣṭhī epigraphs which are of any importance. I therefore confine my palæographical examination to dated records and the inscriptions on the Mathura Lion Capital and the Peshawar Relic Casket.

The Method

According to Dr. Fleet's suggestion, inscriptions on stone were separated from records on metal and an attempt was made to compare inscriptions written in continuous strokes separately from those in which dotted lines have been used in the formation of letters and syllables. But in the latter case there were certain insurmountable obstacles. The Mathura Lion Capital is made of stone, but in all the inscriptions on it, the forms of the letters are indicated by lines of continuous dots, as is the case with the Taxila silver and copper-plate inscriptions. Similarly in the case of the Sue Vihar inscription there is an exception among records on metal. In all other Kharoṣṭhī records the writing consists of a series of punched dots; but in this case, although the material is metal, the letters consist of continuous strokes, as is the case of the copper-plate grants of later periods.

It has been found impossible by any other means to determine the chronological order of the inscriptions to be examined, and palæography is the only method which still remains to be tried. I intend to determine the relative positions of the records under examination by observation and comparison of the peculiarities of the scripts used in them. In order to perform this it is necessary to obtain at least one fixed point. Such a point is easily to be found in the Shāhbāzgaṛhī and

[1] Annual Report of the Archæological Survey of India, 1909-10, pp. 135-41.

[2] JRAS. 1914, p. 973, and 1915, p. 191.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Mānsehra Rock-Edicts of Aśoka. Now, it is universally admitted that Kāṇiṣka appeared centuries after Aśoka; therefore the script used in the stone and metal records of Kāṇiṣka shows a much later form of the Kharoṣṭhī alphabet. This is another fixed point. It would now be much more easy to ascertain the relative position of other records. For example, to ascertain the exact position of the Taxila Silver and Copper-plate inscriptions or those on the Mathura Lion Capital, it would only be necessary to compare each record with a Kuṣaṇa record of its own class, and by referring to the forms of Aśoka inscriptions to determine whether the forms were intermediate ones between the Maurya and Kuṣaṇa ones, or that they were contemporaneous with or later than the Kuṣaṇa record.

As has been stated above, the alphabets of the Aśoka edicts were taken as the starting-point. The only published facsimili of the Shāhbāzgaṛhī edicts, i.e. the twelfth edict,[1] was taken as the prototype, and the excellent illustration was photographed for use in the plates. For the Mathura Lion Capital inscription, the photograph, taken by Cunningham and published by Dr. F. W. Thomas,[2] had to be used, as this was the only illustration of this important group of inscriptions ever published. Cunningham's photographs do not portray all inscriptions on this capital very distinctly, and it is a pity that inked impressions were not used. Even in the case of a dotted record an inked impression is desirable for reproduction, if the material is not very frail as in the Taxila silver-plate inscription of the year 136. This is clearly demonstrated by the excellent reproduction of the records on the Wardak Vase published by Mr. F. E. Pargiter.[3] I am indebted to Mr. Lionel Heath, Curator of the Lahore Museum, for inked impressions of the Fatehjang,[4] Muchai,[5] Mount Banj,[6]

[1] *Ep. Ind.*, vol. ii, pp. 16-20. [2] Ibid., vol. ix, pls. xvii-xx.
[3] *Ep. Ind.*, vol. xi, p. 210.
[4] *Journal Asiatique*, 8me série, tome xv, 1890, pt. i, p. 130.
[5] *Ind. Ant.* 1908, p. 64.
[6] *Journal Asiatique*, 9me série, tome iv, 1894, pt. ii, p. 514, pl. v, 35.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Paja,[1] and Zeda[2] stone inscriptions, all of which are now preserved in the Lahore Museum. The impressions of each inscription were photographed separately. The larger ones were taken on several plates and then joined together. For the Manikyala inscriptions I had to use the photographs published with Mons. É. Senart's article on them.[3] The facsimiles of the Shakardarra inscription of the year 40[4] and the Ara inscription of the year 41,[5] published with my monograph on *The Scythian Period of Indian History*, were photographed, as the impressions received from the Lahore Museum were not good enough.

In this connexion it should be stated that no attempt has been made in the subjoined pages to differentiate between Kāṇiṣka I and Kāṇiṣka II, the existence of a second king of that name in the year 41 of the Kuṣaṇa era being very doubtful. The numismatic evidence is quite against Dr. Lüders' theory.[6] If there was a second Kāṇiṣka in the Kuṣaṇa dynasty, most probably he ascended the throne after Vāsudeva I, some time after the year 99 of the Kuṣaṇa era. There are a number of gold coins bearing the name of Kāṇiṣka, in very degenerate Greek, which are bad copies of the coinage of Vāsudeva I and bear several Brāhmī syllables. These coins cannot be regarded as being contemporaneous with those of Kāṇiṣka I or Huviṣka.[7] Moreover, the problem of overlapping reigns of two monarchs of the Kuṣaṇa dynasty is not adequately solved by imagining the existence of a second Kāṇiṣka in the year 41. I had thought, after the discovery of the Ara inscription, that Kāṇiṣka I made over his Indian dominions to Huviṣka in the latter part of his reign.[8] The

[1] *Ind. Ant.* 1908, pp. 64–5.
[2] *Journal Asiatique*, 8me série, tome xv, 1890, pt. i. p. 136.
[3] Ibid., 9me série, tome vii, p. 1.
[4] *Ind. Ant.* 1908, p. 66, pl. i.
[5] Ibid., p. 58, pl. i.
[6] *Ind. Ant.* 1913, pp. 132 ff.
[7] Smith's *Catalogue of Coins in the Indian Museum*, vol. i, p. 87; Journ. & Proc. As. Soc. Beng., vol. iii, pp. 83–4, pl. iv, 5.
[8] *Ind. Ant.* 1908, p. 58.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

discovery of an inscription of the year 24 of the reign of a king named Vāsiṣka shows that both Vāsiṣka and Huviṣka must have been the contemporaries of Kāṇiṣka I if the Ara inscription is to be assigned to him. To avoid this overlapping Dr. Lüders proposed that the Ara inscription should be assigned to Kāṇiṣka II. His idea of the chronology is as follows. Kāṇiṣka I was succeeded by Vāsiṣka and Vāsiṣka by Huviṣka in India. In Afghanistan and the Punjab Kāṇiṣka II succeeded Vāṣiṣka or Kāṇiṣka I. But Huviṣka was reigning in Mathura in the year 33 of the Kuṣaṇa era. Afghanistan, or at least a portion of it, belonged to him in the year 51. But Western Punjab belonged to a Kāṇiṣka in the year 41. Therefore the reigns of this Kāṇiṣka and Huviṣka must have overlapped. Moreover, there is no reliable ground on which we can assign the Ara inscription to Kāṇiṣka II. Therefore Dr. Lüders' supposition about the existence of a second Kāṇiṣka in the year 41 is unnecessary, since it proves to be quite inadequate to solve the problem. It is quite certain that the Manikyala inscription was incised in the year 18 of the reign of Kāṇiṣka I, in spite of Dr. Lüders' novel explanation. Therefore Mr. V. A. Smith's adaptation of my explanation of the Ara inscription appears to me quite satisfactory :—

"Inscriptions prove that Vāṣiṣka was reigning at Mathura in the year 24 and 28, and Huviṣka between the years 33 and 60, while Kāṇiṣka was reigning at the same place in the year 41. The best way to reconcile the apparent contradiction is to assume that Vāsiṣka and Huviṣka were sons of Kaniṣka, who both acted in succession as Viceroys of Upper India while their father was warring beyond the mountains."[1]

I have not been able to obtain clear and reliable impressions of the Takht-i-Bahai inscription of Gondophernes. This record is at present in the Lahore Museum, but the impression which I received from Mr. Heath is not clear

[1] *Early History of India*, 3rd ed., p. 270.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

enough for reproduction. Therefore I was obliged to use the photograph of the cast published by Mons. Senart.[1] I am indebted to Mr. Heath for excellent inked impressions of the Kaldarra,[2] Skarahḍheri,[3] and Dewai[4] inscriptions. I have not been able to persuade myself to adopt Dr. Fleet's version of the date of the Skarahḍheri inscription. I paid two visits to Lahore, one in September, 1913, and another in November, 1915, and on both occasions I examined this record carefully. I cannot agree to the reading of the date as 399. It should be 179. As I could not obtain good impressions of the Hashtnagar inscription of the year 364,[5] I had to content myself with copying the photograph published in Mr. V. A. Smith's *Early History*. The Loriyan Tangai inscription of the year 318[6] was studied from excellent inked impressions prepared for me by Munshi Wahiduddin, of the Archæological Section, Indian Museum.

The photograph of the Taxila Copper-plate of the year 78, published with Bühler's version of the text,[7] is not very distinct; but it had to be used, as a better one was not available. I am indebted to Sir John Marshall for two excellent photographs of the Taxila Silver-plate of the year 136, discovered by him. I am indebted to the authorities of the Asiatic Society of Bengal for permission to copy the Sue Vihar Copper-plate of the eleventh year of Kāṇiṣka.[8] The impressions were prepared under my personal supervision. For the Peshawar Relic Casket inscription I had to rely on the photographs of the plaster cast published with Dr. D. B. Spooner's article.[9] A set of inked impressions of these important records is very much to be desired. For the

[1] *Journal Asiatique*, 8me série, tome xv, pl. i, 1.
[2] *Ind. Ant.* 1908, p. 66.
[3] Annual Report of the Archæological Survey of India, 1903-4, p. 255, pls. lxix, lxx, No. 9.
[4] *Journal Asiatique*, 9me série, tome iv, pt. ii, p 510, pl. v, No. 34.
[5] *Ind. Ant.*, vol. xx, p. 394.
[6] Ann. Rep. Arch. Surv. Ind., 1903-4, pp. 251-3, pl. lxx, 4.
[7] *Ep. Ind.*, vol. iv, pp. 54 f.
[8] *Ind. Ant.*, vol. x, p. 324.
[9] Ann. Rep. Arch. Surv. Ind., 1909-10, pls. lii-liii.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Wardak Vase inscriptions I used the excellent impressions published with Mr. Pargiter's article.[1]

In the first place each particular inscription was carefully examined for variants of each letter, vowel and consonant. Then each inscription had to be compared with each of the remaining ones, letter by letter. When the examination of all letters and syllables of all the records under examination was finished, then I proceeded to determine the position of each record in the chronological scale by judging the distance in the forms of the test letters from the Maurya form. Then I proceeded to arrange the alphabet of each record in the order in which they stood in the chronology previously determined. For the illustrations I selected Dr. F. W. Thomas' method, employed by him in illustrating the alphabet of the Mathura Lion Capital inscription.[2] In this method the different combinations of each letter with the five vowels employed in Kharoṣṭhī are shown.

Each different combination of each particular letter or syllable, so far as it was obtainable from each record, was cut out and mounted on cardboards, the initial form of the vowel *a* and the consonants being arranged vertically, while five columns of vowel combinations were placed horizontally. Thus the first line of the cardboard gave the initial vowel-forms of each inscription, the second line gave the consonant *ka* in all its combinations with the five vowels, showing their medial forms, e.g. *ka*, *ki*, *ku*, *ke*, *ko*. So each group of five vertical columns illustrated the alphabet of a particular record; while, if a line is read horizontally, it will be found to illustrate the evolutions of a particular letter, with all possible vowel combinations during five or six centuries, from the third century B.C. to *circa* third century A.D.

The Result

By employing the method described above, the inscriptions under examination were arranged in the following order :—

[1] *Ep. Ind.*, vol. xi, pp. 202-19. [2] Ibid., vol. ix, pl. iv (pl. xx).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

I. STONE INSCRIPTIONS :—

1. Mathura Lion Capital.
2. Fatehjang—the year 68.
3. Muchai—the year 81.
4. Mount Banj—the year 102.
5. Paja—the year 111.
6. Zeda—the year 11 of Kāṇiṣka.
7. Manikyala—the year 18 of Kāṇiṣka.
8. Shakardarra—the year 40.
9. Ara—the year 41 of Kāṇiṣka.
10. Takht-i-Bahai—the year 103 = the twenty-sixth year of the reign of Gondophernes.
11. Kaldarra—the year 113.
12. Skarahḍheri—the year 179.
13. Dewai—the year 200.

The position of the dated inscriptions from Hashtnagar and Loriyān Tangai still remain doubtful. They are very small records, and not all letters of the alphabet are to be found in them. Consequently, as many letters cannot be compared, it is very difficult to assign their position in the chronological order. The general tendency of the writing of these two records shows that they are not earlier than the Kushān group of records and at the same time they cannot be placed so late as the Skarahḍheri or Dewai Stone inscriptions.

II. INSCRIPTIONS ON METAL :—

1. The Taxila Copper-plate—the year 78.
2. The Taxila Silver-plate—the year 136.
3. The Sue Vihar Copper-plate—the year 11 of Kāṇiṣka.
4. The Peshawar Relic Casket inscription of the time of Kāṇiṣka.
5. The inscriptions of the Wardak Vase—the year 51 of Huviṣka.

As a Kharoṣṭhī record on metal belonging to the Maurya period has not been discovered as yet, it was necessary to

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

refer in this case also to the forms of the Aśoka edicts at Shāhbāzgaṛhī as a starting-point. In this analysis I have not included the forms of the Kharoṣṭhī alphabet to be found on Indo-Greek bilingual coins, which form the second division in Bühler's classification of this alphabet. The number of letters or syllables on each coin is not sufficient to supply data for the requirements of a palæographical examination.

One important result of the palæographical examination is to divide all Kharoṣṭhī records into two groups, which I name Śaka and Kuṣaṇa, after Bühler. The Śaka records belong to the earlier Scythian period of Indian history, between the Indo-Greek and Kuṣaṇa periods, while the Kuṣaṇa records are those which fall in the reigns of the Kuṣaṇa emperor Kāṇiṣka and his successors. The inscriptions on the Mathura Lion Capital, the oldest stone inscription among the records which have been examined here, belongs to this group. The inscriptions of Rājuvula and Śoṇḍāsa and those of Liaka Kuśulaka and his son Patika or Paḍika are generally taken to be the records of the Śaka period according to Bühler's classification.[1] So Dr. Thomas said: "The Kharoṣṭhī of the Kaniṣka group is of a cursive type, obviously later than that of the Śaka satraps of Taxilā and Mathurā."[2] Commenting on this passage, Dr. Fleet, who differs from this view of Kharoṣṭhī palæography, says, "By 'Śaka satraps' he means (I gather) Rājūvula and Śoṇḍāsa, of whom we have Kharōshṭhī records on the Mathurā lion-capital, and Liaka-Kusulaka and Patika (or Paḍika), of whom we have a similar record on the Taxila plate."[3] The palæographical examination shows that Dr. Thomas' statement is the only possible correct one, and proves the general soundness of Bühler's classification; the forms of the Kharoṣṭhī characters used in the inscriptions on the Mathura Lion Capital among stone inscriptions and those used in the Taxila Copper-plate are decidedly older than the Zeda or Ara stone inscriptions or the Sue Vihar

[1] Bühler's *Indische Palaeographie*, Eng. trans. by Dr. J. F. Fleet, p. 25.
[2] JRAS. 1913, p. 633.
[3] Ibid., p. 975.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Copper-plate and the inscriptions on the Wardak Vase. The palæographical examination further proves that, besides the inscriptions on the Mathura Lion Capital and the Taxila Copper-plate, a number of stone inscriptions are earlier than the Kuṣaṇa group of records. These are the inscriptions of Fatehjang—the year 68, Muchai—the year 81, Mount Banj—the year 102, and Paja—the year 111. The forms of the letters used in these inscriptions is certainly earlier than those of the inscriptions from Zeda, Manikyala, Ara, Sue Vihar, Peshawar, and Wardak.

The difference between the Kharoṣṭhī alphabet of the Maurya period and that used on bilingual coins of the Greek kings of Afghanistan and the Punjab is so slight that it may be altogether neglected in a palæographical examination so wide in range as the present one. The palæographical examination further proves that the difference between the forms of the characters used in records of the Śaka period is not so great or startling as one might have reasonably expected. If the Maurya alphabet of the twelfth Rock Edict at Shāhbāzgaṛhī is compared with the alphabet of the Mathura Lion Capital inscriptions, it is found that the forms of very few letters have changed materially. There is no change in *a* or any other vowel sign, all of which are derived from it. *Ka* also has not changed, both the slanting and upright varieties being represented in the different inscriptions on the Mathura Lion Capital. The change is noticeable for the first time in *ca*. The three different varieties of *ca*, namely (1) head with obtuse angle, (2) head with curve, and (3) head with curve connected by a vertical line with the lower part,[1] have entirely disappeared. The later form of *ca* consists of a curve at the head and a zigzag curved vertical line below it. The change is noticeable next in *bha*. In the Mathura inscription *bha* is upright and more like the Mauryan *ka* in shape. In *la* we find that the left limb is lowered down and never rises above or equal to the top of the vertical line.

[1] *Indische Palaeographie*, Eng. ed., p. 25.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Change is most pronounced in the case of the dental sibilant. In *sa* we find that in the form of the Maurya period the slightly slanting vertical line in the lower limb is projected upwards to touch the curve at the upper extremity of the letter; but in the Śaka period we find that this line, although projected upwards, seldom reaches the top and in the majority of cases never even approaches it. There is a slight change in *ha*. The lower part of this letter in the Maurya period consists of a curve to the right, while in the Śaka period one finds that it consists of an acute angle and a short horizontal straight line to the right. On comparing the letters of all the inscriptions examined for this paper I find that *ka* and the dental *sa* are the test letters in this period. In the inscriptions of Fatehjang, Muchai, Mount Banj, and Paja we find that the same characteristics are present in all. The slanting *ka* so common in the Aśoka rock-edicts, which is also to be found in some cases in the Mathura Lion Capital also, is altogether absent from these records. The inscriptions of Fatehjang and Muchai are very short records, and many letters of the alphabet are not represented in them. The only other noticeable feature is the dental *sa*, in which the lower vertical line is almost always slightly projected upwards beyond the point of its junction with the upper curve. Only in one case, in the Fatehjang inscription, the lower vertical line is not projected. Similarly, in the case of the Taxila Copper-plate inscription, one finds that in many cases this projection does not touch the top of the letter, but in certain cases it does. Now, if the forms of these two test letters in the Śaka records are compared with those of the same letters in Kushān inscriptions, one cannot even for a moment doubt that the group of Aśoka and allied inscriptions is much earlier than those of the Kushān group. I think it would be admitted without doubt that the forms of the Kharoṣṭhi letters used in Kāṇiṣka's time were evolved out of those used in the Rock-Edicts of Aśoka. This being granted, the rest of the case is simple enough. The alphabet used in these Śaka

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

records is intermediate between that of the Rock-Edicts of Aśoka and that used in the Kushān group of inscriptions. If we compare the alphabet used in the Mathura Lion-Capital inscriptions with that used in the Manikyala inscriptions, we find that (1) the form of *ka* has become much more cursive, and approaches the form used in the Sue Vihar and Wardak inscriptions; (2) similarly, in the case of *sa* in the Mathura inscriptions, the lower vertical limb is projected upwards, but in the majority of cases it never reaches or touches the curve at the top of this letter. There are some instances in which there is no projection at all. But in the Manikyala inscription, in all cases, the projection of the lower limb in *sa* is missing. This rule holds good in the case of all other inscriptions which I have added to the two other records of the Śaka period. There are some cases of *sa* in which the lower vertical line is projected upwards; but along with that there are other cases in which there is no projection at all, and with the exception of one case (the Taxila Copper-plate inscription) this projection never reaches the top of the letter.

In the case of records on metal we are placed at a disadvantage on account of the absence of records on metal of the Maurya period. A comparison of the alphabet used in the Taxila Copper-plate with that used in the Sue Vihar Copper-plate or the Wardak Vase produces results similar to those stated above. In the case of *ka* we find that the form used in the Taxila Copper-plate is upright and rectangular, while those used in the Sue Vihar and Wardak inscriptions are slanting and curvilinear. In the case of *sa* we find three different forms in the Taxila Copper-plate: (1) cases in which the projection of the vertical limb touches the top of the letter; (2) cases in which this projection approaches but does not touch the top of the letter; (3) cases in which there is a projection but it does not even approach the top of the letter. In the Sue Vihar and Wardak inscriptions there is not a single case in which there is any projection of the lower vertical limb upwards.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The case of Sir John Marshall's silver-plate inscription from Taxila is slightly different. This inscription is certainly later in date than the Taxila Copper-plate inscription, and at the same time earlier than the Sue Vihar and Wardak inscriptions. In the first place *ka* is not upright, but it is not so slanting or cursive as the forms to be found in the Sue Vihar or Wardak inscriptions. Secondly, in the Taxila Copper-plate inscription there are many instances of *sa* in which the projected lower limb touches the top, while in other cases it does not. But in all cases there is a projection. In the silver-plate there are many cases of *sa* in which the projection is absent, and in cases where there is a projection it does not touch the top of the letter. In the third place, in metal inscriptions of the Kushān period such as the Sue Vihar, Peshawar Relic Casket, and the Wardak inscriptions there is not a single instance in which there is any upward projection of the lower limb of *sa*. This proves conclusively that the Śaka records are earlier than the Kushān ones, and cannot be placed below them in the chronological order. The Taxila Silver-plate is later than the Śaka records, but earlier than the inscriptions of Sue Vihar, Peshawar, and Wardak. Most probably this record belongs to the period immediately before the accession of Kāṇiṣka, when the Kushāns had obtained their first foothold in North-Western India. This, perhaps, is indicated by the presence of the name Kushān (Khuṣana) and the absence of the proper name of the king. I am inclined to place the Panjtar inscription [1] very close to this record on account of the mention of the name *Guṣaṇa* and the Kushān regal titles as well as the suppression of the proper name of the king. The absence of mechanical facsimiles precludes the possibility of a palæographical examination, and consequently nothing can be definitely said about this record.

The general tendency of the stone inscriptions on the Mathura Lion Capital, of Fatehjang, Muchai, Mount Banj, and Paja

[1] Cunningham, A.S.R., vol. v, p. 61, pl. xvi, No. 4.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

indicates that they are written in an alphabet which forms the transition between the alphabet of the Rock-Edicts of Aśoka and the records of the Kuṣhān period. The result of the examination of the script used in records on metal fully confirms the above conclusion. The careful examination of the different records which are admittedly of the Śaka period or closely allied to it shows that Bühler's statement about the letter *ka* of this period cannot be supported. Bühler states: "In the Śaka and Kushan varieties the head of *ka* is commonly converted into a curve."[1] I don't think that there is any ground for this statement. The accompanying illustrations will show that the head of *ka* is not curved in the Mathura Lion Capital inscriptions, the Muchai inscription, the Mount Banj inscription, or the Paja inscription. Out of five cases of *ka* given by Dr. Thomas in his table of the alphabet of the Mathura Lion Capital inscription, only one case can be taken as having a slightly curved top. This is in inscription C; but even in this case it should be recorded as an exception and not as the general rule.

No inscription of the Śaka period which can safely be assigned to this period on the basis of palæography has been found incised with letters made by continuous strokes, and not by punched dots. The Mathura Lion Capital inscriptions are written in characters consisting of punched dots, though the material is stone. The Taxila Copper-plate is, of course, entirely written in letters formed by punched dots. Consequently it is very difficult to ascertain at the present moment whether in the Śaka period the current hand was used in records on metal, and epigraphical or monumental style for records on stone. This has been found to be the case in all other periods of Indian history; but the absence of data compels one to leave this undecided, for the present moment, in the case of the Śaka period.

[1] *Indian Palæography*, Eng. ed., p. 27.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Saka and Kushān Alphabets

It has been stated above that the Taxila Silver-plate recently discovered by Sir John Marshall belongs to that period of Indian history in which North-Western India was passing out of the hands of the Śaka kings or satraps into those of the chiefs of the Kushān tribes; consequently it can be regarded as the last record of the Śaka period of the first one of the Kushān period. The mention of the word *Khuṣaṇa* makes the latter suggestion more probable. Comparing this with the Zeda inscription, which is decidedly the earliest dated stone inscription of the Kushān period, a fact which is admitted by all scholars, we find that its alphabet shows a very near approach to that of the records of the Śaka group. *Ka* in the Zeda inscription is almost exactly similar to that of the Paja and Muchai inscriptions, and most probably the difference between the dates of these inscriptions is very slight. *Ka* is upright and rectangular, and there is no cursiveness about it. Coming to the case of *sa*, we find that this letter is cursive, and the projection of the lower limb is wanting. The want of the projection no doubt shows that the Zeda inscription is later in date than the Paja or Mount Banj records, in both of which *sa* in all cases shows a distinct projection of the lower limb. The affinity, which the Zeda inscription shows in one case, with the records of the Śaka group is wanting in all other inscriptions of the Kushān period. The upright rectangular *ka* henceforth disappears from the Kharoṣṭhī script. Early Kushān records, both Kharoṣṭhī and Brāhmī, show a decided affinity with those of the Śaka period. Before the discovery of Kāṇiṣka's records at Sarnath Bloch was inclined to assign the Śrāvastī image of the Bodhisattva to the Śaka period and stated that the characters used in this record were what Bühler called *Kṣatrapa* characters.[1] After the discovery of the Sarnath inscription it was found that the donors of the Sarnath and Śrāvastī images were one and the same.[2] So it

[1] JASB. 1898, pt. i, p. 277. [2] *Ep. Ind.*, vol. viii, p. 173.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

was no longer possible to refer the Śrāvastī record to the Śaka period. This was recognized by Bloch when editing this Śrāvastī record for the second time. "It is beyond doubt that the inscription belongs to the time of the Kushān kings, either of Kaniṣka or Huviṣka, not of the Kshatrapas, Rañjubala or Śoḍāsa, as I suggested in my previous article, for palæographical reasons." [1] The present examination goes to show that what has been said of Brāhmī is also true of Kharoṣṭhī, and that the date of the Śaka inscriptions cannot be very far removed from that of the Kuṣaṇa ones both in Brāhmī and Kharoṣṭhī. There had been very rapid changes in the Indian scripts; Brāhmī as well as Kharoṣṭhī changed a good deal during the reign of Kāṇiṣka. The case of Brāhmī may be proved by comparing the Sarnath and Śrāvastī records with those dated in the regnal years of Kāṇiṣka found in the ruins of Mathura. The examination of the following records of Kāṇiṣka's reign shows that the Zeda inscription, and that only, shows an affinity with those of the Śaka period. In the case of the other inscriptions, i.e. those of Manikyala, Shakardarra and Ara, we do not find any very close resemblance with the records of the earlier period. In the Manikyala inscription the left vertical limb of *ka* is often curved, thus making a nearer approach to the cursive form of later inscriptions and the Sue Vihar and Wardak records. The change in other letters of the alphabet is not so perceptible as in the case of *sa*. We find that in this case the projection has disappeared and the letter is fast losing all resemblance to the form of the Śaka and Maurya periods. Here, for the first time, we also notice a change in *ya*. *Ya* in this record, in one case at least, is indistinguishable from *sa*, as is the case in the Wardak inscription. *Ha*, on the other hand, is archaic and resembles that of the Maurya period.

It may be questioned whether the palæography of the Manikyala inscription should be considered here at all. Recent interpreters of this record are inclined to think that

[1] *Ep. Ind.*, p. 180.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

it is not dated in the 18th year of Kāṇiṣka's era. This view was propounded for the first time by Dr. Lüders. According to him the word *Kaneṣkasa* was connected with the words following it, and not the date which is placed before it.[1]

Dr. Fleet says: "The view, which I have held for some time, that this Māṇikīāla inscription indicates a revival of the line of Kanishka I at some time after A.D. 50, will explain at once why the deposit of coins along with the record includes coins of Kozoulo-Kadphises and Wema-Kadphises . . . as well as of Kanishka I."[2] The latest interpreter of the Manikyala record is Mr. F. E. Pargiter, who translated this portion of the record as follows:—

> "In the year 18 Lalaṇa, the President of the people, the aggrandiser of the Gushaṇa race of Kaneṣka, *who is* the great king of the realm Pura-aspa . . ." (JRAS. 1914, p. 646).

Mr. Pargiter is certainly right in stating that Kāṇiṣka was alive in the year 18 and in confirming M. Senart's view that the date is really one of the era of Kāṇiṣka. In my humble opinion the first line of the record may be construed differently. The name and the title of Kāṇiṣka have the possessive case-ending, and it is proper that they should not be connected with the word *Gushana*. It goes, as the analogy of a number of similar inscriptions will readily show, with the date which precedes it in the record.

The Shakardarra inscription comes next in the chronological arrangement. The alphabet used in this inscription is much more advanced in form than the Manikyala inscription, which was incised twenty-two years before it, or the Ara inscription, which was recorded a year later. The forms of the letters are much more cursive than those of the Sue Vihar inscription. The alphabet of the Wardak inscription approaches it to a great extent. We have the cursive form of *ka*, which is almost entirely different from that of the Zeda inscriptions. The *sa* resembles the form of the letter used in the Manikyala inscription; we find that *ka* resembles that of the Manikyala

[1] JRAS. 1909, p. 648. [2] JRAS. 1913, p. 106.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

or the Sue Vihar inscriptions. In each of these cases there is a distinct curve in the left vertical line of the letter.

There is a general consensus of opinion among scholars about the date of the Takht-i-Bahai inscription of Gondophernes. Dr. F. W. Thomas says, "Gondophernes was certainly ruling in the year 103 of an era commencing in the first century B.C."[1] Mr. V. A. Smith says, "About A.D. 20 Azes II is supposed to have been succeeded by Gondophares, who seems to have conquered Sind and Arachosia, making himself master of a wide dominion free from Parthian control. When he died about A.D. 60 his kingdom was divided."[2] Later on he says, "Mr. R. D. Banerji believes the date 103 to refer to the Śaka era and so to be equivalent to A.D. 181, basing his opinion chiefly on characteristics of the Kharoṣṭhī script in the inscriptions and partly on an interpretation of Parthian history (*Indian Antiquary*, 1908, pp. 47-62). But the history of Parthia is too imperfectly known to be of much help, and Kharoṣṭhī palæography needs further study. I am not convinced of the alleged late date for Gondophares."[3] Dr. Fleet says, "The inscription from the Takht-i-Bahai hill in the Yūsufzai country, some fifty or sixty miles to the north-west of Taxila, shows that Gondophernēs was reigning over the territory which included that hill in A.D. 47, in the twenty-sixth year of his reign . . . in A.D. 20 or 21."[4] In my monograph on the Scythian period of Indian history I have analysed the evidence for and against the early date of Gondophares.[5] Here I shall confine myself to the evidence of palæography alone. In the case of the test letters *ka* and *sa* we find that they are later in form. *Ka* is much more cursive, resembling the form of that letter in the Shakardarra inscription, being more cursive than those of the Manikyala, Ara, Zeda, or Sue Vihar inscriptions. So also in the case of *sa* we find that the projection of the lower limb is absent in all cases. Under

[1] JRAS. 1913, p. 636.
[2] *Early History of India*, 3rd ed., p. 230.
[3] Ibid., p. 234, n. 1.
[4] JRAS. 1913, p. 1003.
[5] *Ind. Ant.* 1908, pp. 47, 62.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

these circumstances it is not possible to place it before the Taxila Silver-plate of the year 136. It is also impossible to place this record before the records of Kāṇiṣka. Palæographical examination reveals very clearly and distinctly that the Takht-i-Bahai inscription comes after the Kushān group of inscriptions. The inscriptions of Kaldarra, Skarahḍheri, and Dewai certainly come after both the group of Kushān records and the Takht-i-Bahai inscription. The extreme cursiveness of the Skarahḍheri and Dewai inscriptions signifies that they exhibit the latest form of the Kharoṣṭhī alphabet. The Skarahḍheri inscription is very carelessly incised. The cursiveness is not apparent in *ka*, but *sa* does not show any upward projection in lower limb. *Ka* in the Skarahḍheri record is very cursive and the letter does not occur in the Dewai record. In the later record *sa* is almost unrecognizable. In one case it resembles *ta* or *ra*.

The same characteristics are to be observed in records on metal. The form of *ka* in the Sue Vihar record is a nearer approach to that of the Taxila Copper- and Silver-plates. The form of that letter in the Peshawar Relic Casket is more cursive. The final form is to be seen on the Wardak record, where it is almost as cursive as that of those of the Skarahḍheri or shakardarra inscriptions. In the records of the Kushān period incised on metal the forms of *ka* and *bha* are almost similar, so are those of *sa* and *ya*. The form of *sa* is distinct in the Peshawar Relic Casket; but in the Sue Vihar and Wardak inscriptions we find the shapeless scribble of the Dewai and other late Kushān records.

Conclusion: Simultaneous Use of Different Eras

The foregoing examination proves that a number of different eras were being simultaneously used in Northern India in the first centuries before and after Christ. It has been distinctly demonstrated that the Taxila Copper-plate inscription, the Taxila Silver-plate inscription, the stone inscriptions from Fatehjang, Muchai, and Paja are much earlier in date

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

than the Zeda, Manikyala, shakardarra, or Ara records. Consequently it cannot be denied that the dates 68, 81, and 111 are not Kushān dates. Therefore there was at least one era before the Kushān era, whatever its initial year might have been. The discovery of the Taxila Silver-plate shows that two different eras were used in the same area before the Kushān group of inscriptions. This is decidedly proved by the wording of the first line. The addition of the word *Ayasa* immediately after the year and before the month and the day, shows that that word is an adjunct of the year; or, in other words, *Saṁ* 136 *ayasa* means *Ayasya samvatsare* 136, "in the year 136 of (the era founded by) Azes." Similarly, the position of the word *Mogasa*, with titles, in the Taxila Copper-plate inscription, shows that this word also cannot but be an adjunct of the date. Similar instances cannot be found in the whole range of Brāhmī or Kharoṣṭhī records. There are two records of the Gupta period which appear to me to possess a similar peculiarity in the wording of the dates. These are: (1) The Mankuwar image inscription of the time of Kumāragupta I; and (2) the Eran pillar inscription of Budhagupta.

In the first record we find that the date is given in the second line of the record. Here, the mention of the word *rājye*[1] leaves no doubt about the meaning. The second record is in verse, and the date is also given in verse.[2] Consequently, these two records do not really possess this peculiar form of dating. Dr. Thomas objected to the intrepretation of the word *Ayasa* as an adjunct of the date, because there were not titles before it as in the case of *Moga* in the Taxila Copper-plate.[3] But it should be considered that the dynasty of Azes had ceased to rule in the year 136 of his era, as the mention of the Kushān king indicates, whereas most probably Liaka Kuśulaka was a provincial governor under the successors of Moga or at least acknowledged a nominal allegiance. Hence

[1] Fleet's *Gupta Inscriptions*, p. 46, pl. viA. [2] Ibid., p. 89, pl. xiiA.
[3] JRAS. 1914, p. 989.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the presence of the titles before the name of *Moga* in the Taxila Copper-plate and their absence before that of Azes in the silver-plate. Dr. Fleet does not hesitate to state "The word *ayasa* does not mean here 'of Aya'. The record does not set up an era of Aya. And no amount of special pleading can establish any such view. As to what the record really does mean, I do not hesitate to say now, on the strength of the forms *aammi* and *ayaṁsi*, = *asmin*, that it must be an equivalent of *asya*, 'of this'."[1] Can anybody find a material instance of what Dr. Fleet has imagined? It will be very difficult to find one. I think, so far as our present knowledge goes, the use of the word *ayasa* to mean *etad* or *idam*, has not been met with as yet in the date of a single inscription. Wherever *etad* or *idam* has been used, e.g. *etaye purvaye* or *etasya purvasya, ise*, etc., the phrase comes after the entire date, i.e. after the year, month, and day. Dr. Fleet still continues to state that "On the analogy of everything that is taught by the dating of the early Indian records, it would be dated, and would place Aya himself, in the year 136 of an unspecified era founded by someone else."[2] In how many records can a similar peculiarity be found? I do not think there are any besides the two records of the Gupta period mentioned above, and even in these two cases the similarity is not real. We have, therefore, at least two different eras before the Kushān one.

There are two dated Kharoṣṭhī records with dates above 300. I cannot bring myself to agree with Dr. Fleet's interpretation of the Skarahḍheri image inscription. These are the inscriptions of Loriyan Tangai and Hashtnagar. The Loriyan Tangai record was incised in the year 318, and the Hashtnagar one in 384 of some unspecified era. The letter *ka* does not occur in any one of them; but the form of *sa* is the same as that used in the Zeda, Manikyala, or Ara inscriptions of the Kushān period. I do not think they could

[1] JRAS. 1915, p. 317 (following Dr. Thomas' suggestion, ibid. 1914, p. 989).

[2] Ibid. 1915, p. 317.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

be placed after the Skarahḍheri or the Muchai records. Hence these dates must be referred to some other era different from those of Moga, Aya, or Kāṇiṣka. We have, therefore, evidence of three separate eras being used in the same area in the first centuries B.C. and A.D. Such an idea would have horrified Dr. Fleet. When I stated that the Mathura inscription of the year 229 must be referred to some other era different from the Vikrama or the Śaka, he had said, "And the difficulties attending them, and the necessity of not accepting apparent results too quickly, are well illustrated by the point that Mr. R. D. Banerji, who went into this branch of study somewhat deeply, could not account for the Mathurā inscription of the year 299."[1] Had Dr. Fleet maintained that he would not accept an era as one, unless it continued up to the present date, then he should not have accepted the Gupta-Valabhi or Harṣa eras as real. As to the use of different eras in the same locality and at the same time, Dr. Fleet himself would have had to admit that strong evidence is not wanting in favour of such a thing, and there are ancient records dated in two or sometimes more than two different eras.

The continued use of more than two different eras at the same time and in the same locality shows that any attempt to refer all dates of the Scythian period, e.g. from the fall of the Indo-Greek monarchies to the rise of the Gupta Empire, to any single era must necessarily be invalid.[2]

[1] JRAS. 1913, p. 977.

[2] The Plates accompanying this paper will appear in the July number of the Journal.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Invasion of the Panjab by Ardashir Papakan (Babagan),[1] the first Sasanian King of Persia, A.D. 226–41

By VINCENT A. SMITH

IN the course of miscellaneous reading lately I came across a passage in the Introduction to Firishta's *History of the Rise of the Muhammadan Power in India* which I had marked long ago and then completely forgotten. If the main statement in that passage (as italicized), to the effect that Ardashīr Pāpakān (Bābagān), the founder of the Sasanian dynasty of Persia (A.D. 226–41), invaded the Panjāb and retired on receiving homage and tribute, be accepted as true, the information thus acquired not only explains an extremely puzzling unique coin which I published in 1897, but also throws welcome light upon one of the darkest periods of Indian history, the third century after Christ.

The passage, translated by Dowson in the *History of India as told by its own Historians*, vol. vi, p. 557, is this :—

"Some state that Jūnah was son of a daughter of Fūr [Pōros]. After he ascended the throne he performed many good deeds and exhibited many excellent qualities. He endeavoured to promote the prosperity of the kingdom [*scil.* India with capital at Kanauj], and established many towns and villages on the banks of the Ganges and Jumna. He also made great efforts to administer justice.

"*He was contemporary with Ardashīr Bābagān. One year Ardashīr marched against India and reached as far as the neighbourhood of Sirhind. Jūnah was very much alarmed, and hastened to do homage to him. He presented pearls and gold and jewels and elephants as tribute, and so induced Ardashīr to return.* Jūnah then went back to Kanauj, and lived there for some time in

[1] Sir C. J. Lyall informs me that, according to Nöldeke, the correct spelling of the name is Pāpakān. Good Iranian scholars use variant spellings.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

tranquillity. After a reign of ninety years he died, leaving two sons, the elder of whom, Kalyān Chand, succeeded him. He was a tyrant, and Kanauj fell to ruin."

It seems impossible to ascertain the source from which Firishta obtained the legends and traditions related in his Introduction. The chronology is utterly wild and most of the matter obviously is extravagant fiction, but a little genuine history seems to be embedded in the mass. The categorical statement that a perfectly historical personage, Ardashīr Pāpakān (Bābagān), invaded the Panjāb, advancing to the neighbourhood of Sirhind (Sihrind, Sahrind) or to the Sutlaj, and then retired when the principal Indian monarch did homage and paid tribute, does not read like mere legend. Similar events have occurred, and the assertion, as it stands, looks as if it had been copied from some serious historical work not now available.

In the third edition of my *Early History of India* (1914, p. 275) I showed from various lines of evidence that it is "clear that in some way or other, during the third century, the Panjāb renewed its ancient connexion with Persia". One of the lines of evidence referred to is the testimony of the coins of the Later Kushāns, bearing names in Indian Brāhmī letters.

Mr. R. D. Banerji has proved that the coins of the "minor Scythian dynasties" who succeeded the great Kushāns in North-Western India fall into two classes, namely (1) those of the Shākas (Ṣākas), and (2) those of the Shiladas (Ṣiladas). The coins of both classes usually bear three different syllables or groups of syllables in Brāhmī script on the obverse, which is of the standing king type.

Mr. Banerji's account of them may be quoted :—

"The recovery of Gāndhāra was made probably during the later years of Kaniṣka II, about 200 A.D. There are several other varieties of the coins of Kaniṣka II, issued by his subordinate chieftains or governors of provinces. They [ordinarily] bear three different syllables or groups of syllables on their obverse. One

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

syllable below the right hand of the king, another between his feet, and the third below his left hand. From the analogy of the coins of Kaniṣka II, struck by Vāsu, we can deduce that the syllable or syllables below the right arm of the king are the initial letter or letters of the name of the chief by whom the coin has been issued. This deduction is supported by other names such as Mahi-(dhara), Viru-(ḍhaka), etc., which are also found below the right arm of the king on the coins of Kaniṣka II. The other two syllables are probably initial letters of the names of mint-towns and provinces. Thus *Ga* probably stands for Gāndhāra (the province), *Khu* for Khudraka (Sans. Kṣaudraka) the country of the Oxydrakae (?). Names of mint-towns probably are mentioned by their first syllables, which occur below the left armpit of the king, such as *Pu* for Puṣkalāvatī, and *Ga* for Gāndhāra (the city), *Na* for Nagarahāra, etc. In exceptional cases, where only one syllable is found, whether below the left arm or under the feet, I think it is to be taken as the initial letter or letters of the name of the mint-town."

That explanation, although not susceptible of rigid proof, seems to me to be highly probable.

The foregoing long introduction leads up to the description of the particular coin of which the peculiarities are explained by the statement of Firishta.

The description, as originally published by me in JASB., part i, vol. lxvi, 1897, "Numismatic Notes and Novelties," p. 5, is corrected in accordance with the subsequent observations of Drouin (*Revue Num.*, 1898, p. 140), and of Mr. R. D. Banerji in J. & Proc. ASB., N.S., vol. iv, 1908, "Notes on Indo-Scythian Coinage," pp. 88-90, from which quotations have been made above.

The coin in question was collected by Mr. J. P. Rawlins in the Jhelum (Jihlam) district, Panjāb, and was brought to him thickly covered with dirt, and in circumstances which permit no question about its being genuine. The material is a yellow metal, some kind of brass, the thickness medium, and the diameter ·82 inch (21 mm.). It is figured in JASB. for 1897 as above, pl. I, fig. viii, and being well executed has been clearly reproduced. The obverse shows the familiar standing

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

figure of the king, as on other coins of the Later Kushāns. The reverse is occupied by a heavy-topped flaming "fire altar" or, more accurately, "fire receptacle," with (?) streamers hanging from it on the left, but no marks on it. There is no inscription or anything else on the reverse. The characters on the obverse are: *Shilada* (*Ṣilada*), near right margin, outside the spear in the king's left hand; *Pāsana*, under his left arm; and *Nu*, under his right arm; exactly as on the coin figured by Cunningham in *Num. Chron.*, 1893, pl. ix, ii, fig. 13.

But that coin has on the reverse the customary throned goddess holding the cornucopiæ.

Thus the coin obtained by Mr. Rawlins, which seems to be still unique, is what numismatists call a "mule", that is to say, a piece with an obverse belonging to one class of coins and a reverse belonging to another. In this case the obverse is of the ordinary Later Kushān (Kuṣān) type, while the reverse, as Drouin proves, exhibits the fire-altar (or receptacle) as seen on the coins of Ardashīr Pāpakān (Bābagān), the first Sasanian king (A.D. 225 or 226 to 241). It is possible, or rather it is probable, that the existing reverse is the result of double striking over an obliterated throned goddess reverse, and there are doubtful indications of the old device.[1] Indeed, it is hardly conceivable that such a "mule" should have been produced in any other way.

The question then arises why the device of the Sasanian king was put on a coin of a Shilada Kushān. If the Shilada had made his submission to the Persian monarch, such action would be intelligible, and in accordance with precedent, but it would be difficult to imagine any other reason for stamping a Sasanian device on a Kushān coin.

Firishta's statement, if accepted, explains the coin, while the existence of the coin goes a long way towards establishing the truth of the statement. If Ardashīr really invaded the

[1] The marks which look like "streamers" may be and probably are part of the original device.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Panjāb and retired from the neighbourhood of the Sutlaj on receiving homage and tribute from the Later Kushān princes then ruling in North-Western India, the coin is a natural expression of such an event. If no such invasion took place it is very difficult to explain the indubitable fact of the existence of the coin.

The result is that I believe the alleged invasion of the Panjāb by Ardashīr to have really occurred, although it does not appear to be mentioned by the known accessible historians of Persia, so far as I can maintain, and it is at present impossible to determine where Firishta found the record of the fact.[1] Ardashīr is described as an ambitious monarch who sought to restore the ancient limits of the Persian monarchy by various campaigns, but I cannot find any definite mention of a raid into India.

Pāsana seems to be the king's name, *Shilada* (*Silada*) his tribe or clan, while *Nu* will be the initial syllable either of his country or his mint-town. I cannot explain the name *Jūnah* which Firishta gives as that of the principal king of India. The historian believed Kanauj to have been the capital of all the early Indian kings—whether rightly or wrongly it is hard to say. It may well be true that Kanauj fell into decay about A.D. 300.

When Fa-hien, the Chinese pilgrim, visited the town at the beginning of the fifth century A.D., he found there only two Buddhist monasteries and a single *stūpa*. He makes no mention of Brahmanical buildings. It seems evident, therefore, that Kanauj, although a city of immemorial

[1] Sir C. J. Lyall writes: "I find on looking at Tabarī (Arabic text, ser. I, vol. ii, pp. 819, 820) that it is there stated that, after Ardashīr's conquest of the countries bordering on Khurāsān, Marv, Balkh, and Khwārizm, he returned to Fārs and halted at Gōr (جور), where he was visited by messengers from the king of Kūshān (ملك كوشان), the king of Tūrān (طوران), and the king of Mukrān (مكران), who expressed their allegiance (الطاعة). If Kūshān represents the dynasty then ruling in India, this agrees with your view."

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

antiquity and historical renown, was not a place of much importance at that time. The final restoration of the glories of Kanauj was effected by King Harsha-vardhana Śīlāditya between A.D. 612 and 647. When Hiuen Tsang was there in 643 he found a magnificent city with a hundred Buddhist monasteries and double that number of Brahmanical temples. The city evidently must have shared in the prosperity of the Gupta Empire during the fourth and fifth centuries, and so was prepared for further embellishment at the hands of Harsha. The Brahmanical temples probably were erected for the most part before his reign.

It is perfectly credible, and indeed highly probable, that during the latter part of the disturbed third century the city had decayed as indicated in the chronicle used by Firishta. Its partial recovery may be dated from about the middle of the fourth century, by which time Samudragupta had uprooted all rival princes in the territory now called the United Provinces, and had brought the country under his own enlightened government. The prolonged and prosperous reign of his successor, Chandragupta II, cannot but have been to the advantage of Kanauj.

As regards the name of King Kalyān Chand, mentioned by Firishta, it may be noted that there is reason to believe that Kalyāṇa (Kalyāṇa-kaṭaka) was one of the many alternative names of Kanauj (JRAS. 1908, p. 768).

We thus see that it is possible to extract not a little history from the study of one small coin and a few unregarded lines in the work of a Muhammadan compiler. The inferences drawn, although not absolutely established beyond the possibility of doubt, seem to me to attain a high degree of probability. Firishta certainly did not invent the positive statement about the invasion of Ardashīr Pāpakān (Bābagān). He must have copied it from some book now missing. So far as the statement can be tested its truth is confirmed.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Identification of the "Ka-p'i-li country" of Chinese Authors

By VINCENT A. SMITH

WATTERS, when discussing various passages in Chinese literature referring to Kapilavastu, the early home of Gautama Buddha, or to other localities with similar names (JRAS. 1898, pp. 539, 540), observed that "for the names Kapila and Kapilavastu the Chinese seem to have obtained from their foreign teachers several explanations more or less exact".

After enumerating some such explanations, he proceeds to say that the Kapilavastu district or Sakka region is sometimes mentioned by a designation equivalent in meaning to "Red-marsh-country", and "evidently the translation of a Sanskrit term". In connexion with this last name it may be mentioned that "in the year A.D. 428 an embassy from Yue-ai [Chinese characters], 'Moon-loved,' king of the Ka-p'i-li country, arrived in China. This country—that is, its capital—was described as situated on the side of a lake to the east of a river, and surrounded on all sides by dark purplish rocks". In a note Watters adds that the name Ka-p'i-li occurs in Chinese treatises other than Sung shu, ch. 57, the authority cited, and that it "was evidently not Kapilavastu". It is clear, therefore, that a country named Ka-p'i-li and distinct from Kapilavastu was fairly well known to Chinese authors.

In the *Early History of India*, ed. 3, 1914, I cited the embassy of A.D. 428 as being the only precisely dated event on record referable to the reign of Kumāragupta I (A.D. 413–55), but was unable to make any suggestion concerning the position of the Ka-p'i-li kingdom.

Lieut.-Col. Alban Wilson, late of the 8th Gurkhas, in letters dated December 24, 1918, and March 12, 1919, offers a solution of the question, which seems to me not only plausible but almost certainly correct. He asks:—

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

"Is it possible that the Ka-p'i-li country is the Khasia [Khāsi] Hills in Assam? For the big river which now divides the Khasia from the North Cachar Hills is called the Kopili, and is looked upon by the Khasias with very great respect and fear, and even in my time human sacrifices have been made to it. U-Ai is quite an ordinary Khasia name. I once had a servant of that name... The Kopili flows down into the Nowgong district of Assam, and the Khasias once ruled the plains up to the Kopili, as well as the hills joining on to them, as is proved by the monoliths they used to erect being found in the plains as well as in the Hills."

Those observations prove that the Kopili River was locally famous, and that the people on its western bank once ruled a kingdom of considerable magnitude.

Lieut.-Col. Wilson points out that a Khasia Rājā named U-Ai "could have sent his embassy from the Kopili up the Lohit into China". The Lohit River, much further to the north, is a member of the Brahmaputra system of streams. It is curious that in Sanskrit the words *lohita* and *kapila* both mean "red" or "reddish", so that the name of the Lohita River might appear as Ka-p'i-li, which is a direct transcription of the nearly synonymous word *Kapila*. But the fact that U-Ai (Yue-ai) is apparently a Khasia (Khāsi) name seems to preclude the identification of the "Ka-p'i-li country" with the valley of the Lohit.

The name of the river written by Lieut.-Col. Wilson as Kopili appears in the *Imperial Gazetteer* (1908) as Kapili, practically identical with the Chinese Ka-p'i-li, the only difference being that the Chinese *p* is aspirated. According to the *Gazetteer*, the river rises on the northern slopes of the Jaintiā Hills, and after a course of 163 miles falls into the Kālang at Jāgi, near the western end of the Nowgong district. It receives many tributaries, and in the rainy season is navigable for boats of four tons burden up to the place where it leaves the hills. Most of the hill trade, consisting of cotton, lac, and *eri* silk, comes down the Kapili to Chāparmukh, and is dispatched thence by rail or country boat to Gauhāṭi.

My conclusion is that in all probability Lieut.-Col. Wilson

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

is right in identifying the Ka-p'i-li country of Chinese authors with the region of the Khasia or Khāsi Hills to the west of the Kapili River, and also in treating the Chinese name Yue-ai as being primarily not a translation of Chandrapriya or some similar Sanskrit designation meaning "Moon-beloved", but simply a phonetic transcription of U-Ai, that is to say, the Khasia name *Ai* with the masculine prefix *U*, to which the Chinese gave a meaning in their own tongue. In the Khasia (Khāsi) language all masculine names and nouns take that prefix *U*, as feminine nouns and names take the prefix *Ka*. For example, *u-ksew* means "dog", and *ka-ksew* means "bitch".

It is quite natural to suppose that the Indo-Chinese Rājā of a small frontier kingdom in Assam, with trade connexions of appreciable value, should have sent an embassy to the court of the great empire beyond the mountains. The Khāsi Rājā is described above as "Indo-Chinese" in accordance with the statement of the *Imperial Gazetteer* (1908) that—

"The Khāsis and Syntengs, like the other tribes of Assam, are descendants of the great Indo-Chinese race, whose headquarters are supposed to have been in North-Western China, between the upper waters of the Ho-ang-ho and the Yang-tse-kiang. They are, however, thought to belong to one of the earliest bands of immigrants, and their language is quite unlike any other form of tribal speech now found in Assam, but is connected with the Mon-Khmer language used by various tribes in Anam and Cambodia. While the rest of the horde pressed onwards towards the sea the Khāsis remained behind in their new highland home, and for many centuries have maintained their nationality intact, though surrounded on every side by people of a different stock."

Sir George Grierson tells me that he would "not call the Khāsis 'Indo-Chinese'. If language is any guide, they are an isolated branch of the Mōn-Khmēr family, which comes from, or is related to, Indonesia, not to Indo-China". I cannot form or express any opinion upon the ethnological question thus raised, which is not strictly relevant to the subject of this communication.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

MISCELLANEOUS COMMUNICATIONS

BAR HEBRÆUS'S SPIRITUAL ANCESTORS

Dr. Gaster's accurate review of *Bar Hebræus's Book of the Dove* in this Journal (1919, pp. 593–6) would not cause me to write a few words of reply, if there were not one point that seems to want a short elucidation.

Dr. Gaster expresses his surprise at the fact that in my attempt to find the origin of Bar Hebræus's mysticism I should have overlooked the Mandean and the Kabbalistic systems, though a place has been given to "some Greek mystical traditions, or rather ancient mysteries" which are separated from the mysticism at the end of the thirteenth century by "a large gap".

What I want to point out is the following: Bar Hebræus's nearest spiritual ancestors are the Muslim mystics of the type of Ghazālī. They have taken over their spiritual inheritance from the Syrians. The latter are, to a large extent, dependent upon Greek-writing Fathers such as Basil and John Climacus, who owe their system to various sources: Christian and Neopythagorean ascetics, Neoplatonian philosophers, Hellenistic mystery-religions, and Gnostic sects. Now I do not deny that the Mandean and the Kabbalistic systems are also related to the sources mentioned. But what I deny is that those systems are the direct agnates of that of Bar Hebræus, and that they had any direct influence upon John Climacus, Isaac of Ninive, or Abū Ṭālib al-Makkī, to mention some names only. In my opinion they belong to a collateral line, and though both have been embodied in Aramaic dialects, I doubt whether it could be proved or even made probable that Bar Hebræus was personally acquainted with them. It is for this reason that I have ignored them in my Introduction to the translation of the *Book of the Dove*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

What gave me the better right to do so is the uncertainty concerning the date of the Zohar and the Mandean writings. Dr. Gaster is no doubt well acquainted with the controversy about the origin of the Zohar. According to Nöldeke the oldest of the Mandean writings known to us may have been composed between A.D. 650 and 900. The system may be older, but still it is hardly possible that the course of the great mystic stream which ends with Bar Hebræus should have been influenced by the conceptions of the Mandeans or those of the Kabbalists.

If any of Bar Hebræus's ideas, left unexplained in my book, can be explained from the two systems mentioned by my learned reviewer, I shall acknowledge the justness of his remark. But as long as this has not been done, I shall feel justified in having omitted these systems in the spiritual pedigree of Bar Hebræus.

A. J. WENSINCK.

LEIDEN.

THE BOOK OF THE APPLE

In the JRAS. for 1892 I published a Persian translation of the dialogue called *The Book of the Apple*, of which the original Arabic was not known to be in existence, though one short fragment of it had been discovered. In the Cairene *Muqtaṭaf* for December, 1919, and January, February, and March, 1920, Mr. Amīn Ẓāhir Khair Allah has published a text of the Arabic. He states that he found the MS. in the library of Gregorius IV, Greek Orthodox Patriarch of Antioch. The Arabic corresponds closely with the Persian, only whereas in the latter the chief speaker is Aristotle, in the Arabic he is Socrates. The Arabic fragment published in JRAS. 1892, p. 188, does not agree verbally with the text in *Muqtaṭaf*, December, 1919, p. 483, but this may be due to inaccurate citation. The editor of the Arabic is mistaken in asserting that the greater number of the interlocutors have names that are non-Hellenic; he has

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

been misled by corruptions of the text, most of which can be corrected from the Persian.

It is rather curious that in the reference to this treatise in the *Ikhwān al-Ṣafā* (Bombay, 1306, iii, 120; Dieterici, *Philosophie der Araber*, i, 105) Aristotle, not Socrates, is said to be the chief speaker. This agrees with the Persian; yet that the original had Socrates is made probable by the introduction of Simmias and Criton, who figure amongst the hearers of Socrates in the Platonic dialogues, and who can only be brought to the death-bed of Aristotle by a gross anachronism. There is therefore room for an inquiry into the literary history of this dialogue, which is in any case as old as the tenth century of our era.

D. S. MARGOLIOUTH.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

NOTICES OF BOOKS

A History of the Maratha People. By C. A. Kincaid, I.C.S., and Rao Bahadur D. B. Parasnis. Oxford University Press. 1918.

This is the first volume of a history of the Marathas. It is a valuable contribution to Indian history. The authors have worked out the inscriptions and the legends of the Maratha people, and so have been able to add much to Grant Duff's book. But their book is, I think, disfigured by excessive partizanship. Not contented with making out Sivaji to have been a man of talent and courage, and a patriotic Hindu, the authors represent him as spotless, and support the monstrous figment that he slew Abzul Khan in self-defence! Such one-sidedness is excusable in a Maratha, but we expect more mental solidity in a Briton. Mr. Kincaid says he has done his utmost to avoid giving offence to his Indian readers, and begs forgiveness if he has hurt their feelings. Why should he? He would have done better to follow John Bright's motto, "Be just and fear not." Perhaps, like Sir Richard Steele, he has been undone by his auxiliary, for his coadjutor, to whose knowledge and industry he owes so much, seems to be an ardent Hindu. Mr. Kincaid speaks of his Indian friends, but I hope he also has Musalman friends, and he can hardly expect that they will accept his view of the occurrence at Pratapgad. One or two opening chapters give accounts of the early legends of the Marathas. They are interesting, and remind us of the early chapters of Grote's *History of Greece*. But there is a difference. The Greek legends are deeply interesting and important on account of the wonderful outburst of light and leading which followed them. But it cannot be said as yet that anything of vast importance has followed upon the time of the legends of Maharashtra.

Mr. Kincaid is rather a discursive writer, and several of

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

his chapters have very little to do with the Marathas. His accounts of the Delhi emperors, and of the Bahmani dynasty, and of the Vijayanagar Empire, etc., seem to be fairly correct, but they add nothing to Elphinstone's history. Why should we be told in a book about the Marathas of the vagaries of a madman like Muhammad Tughlak, or of the brutalities of Alauddīn? Why mention Bābur, who certainly never had anything to do with the Marathas, and who tells us nothing about the Deccan? The details about the Portuguese might also have been spared. It is owing to the discursiveness of the sketches that several slips have occurred. I am not aware that Timur ever claimed to be a descendant of Chingiz Khan (p. 80). He may have intermarried with that family, but he was a Turk and Chingiz was a Mughul (p. 81). Ferghana is not now known as Kokan, and though Bābur's body was eventually borne to Kabul, this did not occur till several years after his death. At p. 98 Shah Tahir is described as an impostor, which was not the case. He was a Persian and a poet, and apparently a genuine believer in Shiism. He is, I have little doubt, the Saiyid Deccani of Bābur's Memoirs (p. 110). Shah Jahan is called Shah Jahan's eldest son. This, of course, is wrong, for Khusru and Parwiz were older than he. But as on the preceding page Khusru is called the eldest son I suspect that at p. 110 "eldest" is a printer's error for "ablest".

At p. 112 Mr. Kincaid tells the story of Shahaji, the father of Sivaji. But he says nothing about Khāfī Khan's story that though Sivaji's ancestors were connected with the royal family of Chitor, one of them had made a mesalliance with a woman of a different caste, and so there was a strain of illegitimacy in Sivaji. It is said that on account of this one of Sivaji's ancestors went off to the Deccan. All that Mr. Kincaid says is that the ancestor fled on account of a quarrel with the Rāna. Khāfī Khān is a careful writer, and he says that he has taken his account of Sivaji's origin from reliable men of the Deccan and of the Maratha tribe. Surely

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

it is an honour to any family to be connected with Rānas of Chitor, even though there be a bend-sinister in the pedigree, and the fact that Sivaji had Rajput blood in his veins may account for the courage and ability which Khāfī Khān concedes to him. Mr. Kincaid is very severe on Khāfī Khan and says that his should be wholly discarded. He adds that Khāfī K. never speaks of Sivaji except as that "vile infidel, or that hell-dog". I have read Khāfī K.'s long account of Sivaji at pp. 111 to 119 of the Bib. Ind. edition, and I have not found there the expression "hell-dog", nor that of "vile infidel". It is true he calls him a son of Satan, but he also gives him credit for very good conduct after Afzal K. had been murdered. He says that no woman was dishonoured nor any mosque or Koran insulted.

Looking at the probabilities of the case, it is far more likely that Sivaji was the aggressor. He was in the prime of life (32 or 33) and had concealed weapons. Afzal was an elderly, if not an old man, for he had a son with him who was of full age, and who took charge of the cavalry after his father's death. I do not know the evidence for the statement that he was a man of great stature and strength. I have read somewhere that he was corpulent and lethargic, and the fact that he had to be carried about in a palanquin indicates that he was not a robust man. Mr. Kincaid gives a very curious reason for believing the *bakhar* narratives. He says that if the writers of the *bakhars* had believed the story of Sivaji's treachery they would have gloried in it. In other words, their minds were so warped that in other instances they have ascribed unscrupulous acts to their hero because they thought these proved his cleverness. But if Sivaji's followers had such notions would not their leader be likely to share them? *Noscitur a sociis* is a true maxim, and the maxim is perhaps still truer if we substitute *servis* for *sociis*. Nor is it true that assassins and their admirers always and everywhere glory in their deeds. They have one language for the public and another for private consumption. I have

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

no doubt that secretly they applauded the killing of Afzal K., but publicly they denied the fact. It is a pity that Mr. Kincaid has not studied more Muhammadan writers. He says that for the Musalman period he has chiefly relied on Ferishta. But Ferishta knew nothing about Marathas and was dead before Sivaji was born. Why has not Mr. Kincaid referred to the Alamgīrnāma and the Bādshahnāma?[1]

H. BEVERIDGE.

HISTORY OF THE PORTUGUESE IN BENGAL. By J. J. A. CAMPOS. Calcutta, 1919.

The position of the Portuguese in Bengal differed considerably from that of their establishments in Southern and Western India, in Ceylon, and Malacca in the early part of the sixteenth century. Bengal was a tempting field for commercial enterprise, but this field was left open to private exploitation, and no official centres of government were formed there and no forts were erected for the protection of

[1] It is with pleasure and pride that I have found that my honoured father took, in his History of India, the same view as myself of the encounter between Afzal Khan and Sivaji. See the book, vol. i, p. 295, where Sivaji's act is called an atrocity, and where there is a cut showing the *vāghnak* or tiger's claws which Sivaji is said to have invented. It would be interesting to know if the weapon, now in the Indian Section of the South Kensington Museum, that is, the Victoria and Albert Museum, can be regarded as the actual instrument which perpetrated the murder. My father's book is in the main a history of the English in India, and I had forgotten till now that he had described the Pratapgad incident. No doubt he followed the account in Grant Duff's work.

It has been said that Sivaji's conduct in killing Afzal was no worse than Bruce's slaying of Comyn. No doubt there was a similarity between the two acts. But there is no evidence that Bruce's action was premeditated and elaborately planned. And it does not appear that either Bruce or the Scottish nation ever behaved hypocritically or attempted to deny the murder. Kilpatrick, Bruce's follower, at least had no qualms on the subject, and when Bruce was in doubt if he had really killed Comyn, went and completed the business. The nearest parallel to Sivaji's conduct seems to be the Biblical story of the killing of Amasa by Job. In both cases there was an embrace followed by a stab.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

their interests. Nevertheless, the story of their settlements in the Ganges Delta and of the prosperity attained by them is of sufficient importance to deserve a separate record, and this record is now given us by Mr. Campos.

It was not till after the conquest of Malacca by Alboquerque in 1511 that the great conqueror and administrator turned his attention to Bengal and to the further east. In 1513 he drew the attention of the King of Portugal to the important trade which might be developed in Bengal. He did not live to carry out his plans, and it fell to his incompetent successor, L. S. D'Albergaria, to develop his projects. This was done in a half-hearted and blundering manner in the years 1517-18. Chittagong was selected as the point of approach, apparently because it was accessible from the sea more easily than the ports in the Delta, and also perhaps because its subjection to the Pathan kingdom of Bengal was loose and intermittent. Just at that time Sulṭān Husain Shāh, whose capital was at Gaur, had taken temporary occupation of Chittagong, and his governor there was apparently at first inclined to receive the visitors, but his suspicions were soon raised by the contradictory claims made by rival Portuguese commanders of flotillas which had been dispatched by the governor without any knowledge of each other, and the expeditions ended in failure. Another expedition in 1528 also came to grief. Some Portuguese were killed and others imprisoned by Sulṭān Maḥmūd Shāh, and the leader, A. de Mello, had to be ransomed. He was sent on another expedition in 1534 by a more energetic governor, Nuno da Cunha, but was again imprisoned. The governor in revenge sent a fleet which attacked and burnt Chittagong. The Sulṭān was himself in a precarious position, as he was threatened by Shēr Khān, Sūrī (the Xercansor of the Portuguese), and he grasped the opportunity of utilizing the fighting power of the foreigners for his own defence. Meanwhile, an enterprising Captain, Diogo Rebello, had made his way northwards along the Orissa coast to the Hūglī branch of the Ganges, which he

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ascended to the great port of Satgāw, one of the principal gates to the trade of Bengal. They were allowed to remain and trade, and the captives were released to fight against Shēr Khān. Maḥmūd, however, succumbed to the latter in 1538, and the governor never obtained the sanction he desired for the erection of a fort at Chittagong. He did not attempt to make an establishment by force, being no doubt fully occupied with the Turkish attack on Diu. Nevertheless, Portuguese trade began to thrive from that time on, both at Chittagong and Satgāw (Satigam), which they named Porto Grande and Porto Pequeno, "the great and small ports."

Owing to a change in the course of the Hūglī River the channel on which Satgāw was situated gradually silted up, and they made their headquarters at Hūglī on the new bed of the river a few miles away. Chittagong retained its importance also as they found no strong central government to fight against there. It was practically abandoned under the Sūrīs, and even Akbar's conquest of Bengal did not lead to any permanent supremacy over Chittagong, which had to be reconquered by Aurangzēb in A.D. 1665, when it was renamed Islāmābād. Its principal value was that it served as a stepping-stone to the great eastern branch of the Ganges, joined by the Brahmaputra. On this branch below Ḍhākā was situated the flourishing port of Sunārgāw, and yet lower down the stream Srīpur, and these could easily be reached from Chittagong. Hūglī had, as Mr. Campos shows, taken the place of Satgāw by 1580, when the Portuguese obtained a charter from Akbar, but Satgāw lingered for some time before it was finally abandoned. Hūglī became very prosperous, and the Portuguese enjoyed much independence, but it is clear that they never built a fort there, and that the authority of the emperors was paramount, as Mr. Campos clearly shows (pp. 57–9). As to formal Portuguese government, there is no evidence, and Mr. Campos cannot be said to have made out his contention that there was a regular succession of governors. The Chittagong settlement continued to flourish,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

and the Portuguese were long in favour with the King of Aracan, who was supreme there. The seizure by them even of the great island of Sundiva (1590–1602) (Sandwīp) was not opposed at first, but their final conquest of the island led to a war, which, however, was settled amicably for the time being. In the end they were forced to abandon Sandwīp. Many adventurers took part in these wars and established themselves again in the island in 1610, and made it the centre of what can only be described as piracy. As the Portuguese power under the blight of Spanish rule and the advance of other European powers began to wane throughout the East, the settlements in Bengal also suffered, and finally a deadly blow was struck against them by the Emperor Shāh Jahān, who cherished a grudge against them partly because they had refused to help him when he was in rebellion against his father, Jahāngīr, and partly on account of their piracies and their alliance with Aracan, which continued to defy the Mughal Empire. Many other causes have been assigned, but these seem to be the most important. Hūglī was attacked and taken after a desperate resistance in A.D. 1632. Yet shortly afterwards they were allowed to establish themselves there again and to carry on their trade, which was no doubt profitable to the country.

Yet the period of decline had set in, and the continued prevalence of Portuguese piracy in the Bay of Bengal did not improve matters, until finally the conquest of Chittagong by Shāista Khān, Aurangzeb's viceroy of Bengal, led to the loss of all Portuguese independence. Mr. Campos has given a full and accurate account of all these events based on a careful examination of the authorities, both Portuguese and Indian. He has also traced the subsequent history of the Portuguese in Bengal, and endeavoured to identify all the sites mentioned by the chroniclers, generally with success. On the vexed question of the identification of the mysterious city of Bengala, mentioned by early travellers, he pronounces in favour of Chittagong, without, however, giving due importance to the fact that its subsequent pre-eminence

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

as the "Porto Grande" did not exist at the commencement of the sixteenth century, and also that Chittagong did not at that time form part of Bengal but of Aracan, and could not have been described as the capital of Bengal, and that the true capital Gaur and the great ports of Sunargāw and Satgāw have claims which cannot easily be set aside. Mr. Campos has rendered a great service to Indian history in bringing together all the facts on this interesting subject, and has supported his statements by very full references to the authorities on which he relies.

M. L. D.

COMPARATIVE ADMINISTRATIVE LAW. By NAGENDRANATH GHOSE. Tagore Law Lectures, 1918. Butterworth and Co., Calcutta. 1919.

From the point of view of the Indian student, for whom the work is primarily intended, there is much to be praised in the latest volume of Tagore Law Lectures. The author is familiar, if not with the original sources, at least with good authorities on the topic with which he deals; he quotes their views with much freedom and in great detail, while his judgment is generally sound, and he supplies an original element in his adduction of evidence from Indian law. Moreover, though a strong supporter of reform in the government of India, he has avoided the temptation of converting his lectures into propaganda, while using with skill and moderation proposals included in the Montagu-Chelmsford report to illustrate his theme.

Even from the more exacting standpoint, which treats the book as intended as an individual contribution to the study of comparative administrative law, the work is of substantial value, which judicious condensation would enhance. But some at least of the author's theories must be reconsidered, and in particular it is desirable that an effort should be made to elucidate the relation between administrative law and

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

constitutional law, which is passed over *sub silentio.* The omission to discuss this point is the more unfortunate in that the suggestion is made that administrative law is not yet differentiated in England from private law, and not yet made a subject of special study (p. 3). In point of fact, by far the larger portion of Mr. Ghose's book deals with questions which in England have always been taught as part of constitutional law, from which, indeed, they can only artificially and inconveniently be severed. What England has not developed, and until of late has not studied, is a system under which, in cases between the government or officials of a state on the one hand and subjects on the other, special principles differing from those applicable to cases between subjects are applied by special administrative courts, whose personnel contains a preponderating administrative element. In one sense, indeed, the title of Mr. Ghose's work leads to disappointment; it would be a matter of considerable interest if an attempt were made to explain the principles adopted in such cases in the various foreign countries where administrative law in this precise and limited sense prevails, but the difficulties of such an undertaking are obvious, and Mr. Ghose is not the only writer on comparative administrative law who has declined to face them.

Unfortunately also the author has committed himself to the heroic effort to prove that administrative law is a new conception, and that the Greek City States and the Roman Republic alike were ignorant of the idea. Feudalism we are assured gave men the idea of rights which can be enforced against the state. The argument is strange and unattractive. If state is taken in its precise sense of a political society, to assert the rights of individuals against it is absurd, since it is the necessary condition for the existence of rights at all; if state means government, the argument is wholly contrary to fact. In Plato and Aristotle there is found the scientific development of the conception of law as the essential element of state life, a principle which Demosthenes asserts with special

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

energy, and which in Athens was carried into practice by the rules that offices were held on brief tenure, that the holder had to pass tests before admission, and was accountable for his official acts; in other words the idea of administrative law was fully worked out. The case of Rome is equally clear; as Mr. Ghose himself admits (p. 21), the Roman magistrate after his annual tenure of office was liable to civil and criminal proceedings for his official acts in the ordinary courts, which is a complete vindication of administrative law; moreover, Mr. Ghose has failed to note that the possibility of illegal action by the magistrate while in office was strictly limited by the likelihood of the intervention of a colleague of equal or higher status or of a Tribune. By this means Rome supplied, not uningeniously, a method of preventing abuse of official power, without actually enfeebling the executive by exposing its members to suits while engaged in the performance of their duties. Feudalism, on the contrary, destroyed administrative law and administration according to law alike by its deplorable relegation of judicial authority to baronial courts.

It is difficult also to accept the confident prediction of the author (pp. 263–6) that cabinet government is the only possible form of government for the future of any country, or even to understand the reasoning by which this claim is supported. It is maintained that all modern constitutions, almost without exception, now require that every act of the executive must be countersigned by a minister who will be answerable for its legality in the courts of law, and that, as the Ministry must take the law from the legislature, the latter will eventually insist that they shall use their discretionary powers at the pleasure of the legislature. The conclusion is as unconvincing as the premises are incorrect. Neither in the United Kingdom under cabinet government nor in the United States, where no real cabinet government exists, is a Minister answerable to the law courts in virtue of countersigning an executive order, and the United States constitution shows now less probability than ever of developing the system

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of ministerial responsibility and cabinet government. The position may be regrettable, but no amount of faith in cabinet government can alter the fact that it really flourishes in its true form only in the British Empire, and in a modified form in Belgium and possibly a few minor states.

Nor is it possible to subscribe to the suggestion of the author (pp. 632, 653–5) that the introduction of a system of administrative law is at once inevitable and desirable in the case of the United Kingdom. As Mr. Ghose admits (p. 643), in France only has administrative law developed the true characteristics of law, and even there the position of the man injured by official action is not pleasant. He may be met in any effort to obtain redress by the plea of act of state, and in other cases even if the Court of Conflicts, in whose decisions the administration has the decisive vote, should admit that his case is one for judicial examination, he must then pursue it against the government before an administrative court, the members of which are not merely administrative officials, but are removable at pleasure by the President. In the United Kingdom as matters stand, the courts have developed their jurisdiction to deal even with threat of illegal action by administrative officials,[1] and there remains only the question of controlling decisions taken within the bounds of law. Mr. Ghose hardly realizes the true position of matters in the United Kingdom in this regard. Large powers are given, for instance, to local education authorities, which are elective bodies or at least committees of elective bodies with co-opted members; if in the exercise of their discretion these bodies threaten to affect unfairly the rights of individuals, there normally lies an appeal to the Board of Education; similarly, from orders by municipal authorities, appeals lie in certain cases to the Ministry of Health; in these cases the central bodies perform more effectively and satisfactorily the purpose aimed at by Mr. Ghose, the review by a comparatively

[1] *Dyson v. Attorney General* [1911] 1 K.B. 410; *Board of Education v. Rice* [1911] A.C. 179.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

impartial body of administrative decisions, while against illegality the courts are open and will afford protection without regard to administrative convenience. Whether in the case of India administrative courts might serve a useful purpose may also be doubted; the whole tendency of Indian administration must clearly now be to approximate to the English model, and in the long run administrative courts might prove a disadvantage, not a protection, to private rights. It is significant that Mr. Ghose is not a pronounced admirer of the existing Revenue Courts, which are in a sense courts of administrative law (pp. 129, 130, 654).

On more purely legal points Mr. Ghose is sometimes not a sure guide. Owing to his unfortunate ignorance of the authoritative literature on responsible government in the British Dominions, he has failed (p. 345) to appreciate the precise distinction between the position of the Lord Lieutenant of Ireland and the Governor-General or Governor of a Dominion or Colony as regards liability for official actions. It is now absolutely clear law that no action lies against the Lord Lieutenant in respect of any action done or ordered by him in virtue of his office; the matter is so certain that since the case of *Sullivan v. Spencer*[1] in 1872 no attempt has been made to question it, and to cite dicta of English judges against it is idle. No such immunity is accorded to Governors-General, but it is by no means clear that the analogy of Governors-General is more applicable to the Governor-General of India, who is given the style of Viceroy, than that of Lord Lieutenant. The point is of some interest, for, as Mr. Ghose very properly points out (pp. 347, 349), the exemption from proceedings granted to the Governor-General, Governors, Lieutenant-Governors, and Executive Councillors by s. 110 of the Government of India Act, 1915, applies only to the original jurisdiction of the High Courts, and leaves open the question of proceedings in inferior courts, unless it can be argued that the greater includes the less, and that effect must

[1] 6 I.R.C.L. 173.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

be given to the presumed intention of the statute generally to exclude jurisdiction. If, however, the Governor-General is to be assimilated to the Lord Lieutenant of Ireland, then apart from statute he would be exempt from suit. The whole question is of more than merely speculative importance, in view of the extension of the immunity even to Ministers appointed in accordance with the reform scheme of Indian government.

Mr. Ghose again has involved himself in needless difficulties on the subject of the application to India of the common law of England to the several parts of the British India as they were acquired (pp. 365, 367, 420). To lay this down as a general doctrine is impossible, and the needs of the situation are met by remembering the clear distinction between the common law as a whole and the common law in its application to the Crown. The existence of sovereignty carries with it the application to the whole of British India of the latter, save where expressly varied by statute law applicable to India, and thus offences against the King's person are offences *pleno iure* in India, requiring no express statutory enactment. The other case which perplexes Mr. Ghose is even more simple; the fact that the High Court at Allahabad has power to punish summarily a contempt by fine or imprisonment[1] does not depend on a very problematic extension of the common law to the Mofussil, but on the fact that the Court is established by letters patent under a statutory authority, and that such a power is an essential adjunct of such a court, and thus is derived mediately from Parliament. It need hardly be said, therefore, that it is impossible to accept the suggestion (p. 571) that the provision of the Act of 1833[2] which forbids Indian legislatures to make laws affecting any part of the constitution of the United Kingdom "whereon may depend in any degree the allegiance of any person to the Crown" could ever have been construed so as to afford

[1] *In re Sarbadhicary*, L.R. 34 I.A. 41.
[2] Now s. 65 of the Act of 1915.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

all persons in British India the guarantee of the fundamental rights of British subjects, and to limit Indian legislation as the Fourteenth Amendment of the United States Constitution has limited the powers of American legislatures. The plain meaning of the statute is far more limited, and nothing but confusion could have resulted from efforts to apply to India conflicting judicial theories of the common law rights of British subjects. On the other hand it is impossible not to agree with Mr. Ghose (pp. 320, 326) that the Indian courts in holding, as has been done of late,[1] that the power to sue the Secretary of State in Council does not extend to actions done by the Government in its sovereign capacity, have disregarded British for American precedent in a manner which is certainly to be regretted.

Many other points might be discussed, but it must suffice to refer to the curious impression formed by the author (p. 216) of the mode of government of Crown Colonies, which he conceives to be rescued from despotism by the application of minute codes of rules binding on the Governor and his subordinates. The despotism is as idle a fiction as the codes of rules; the rule of law is absolute in every Crown Colony, and the Governor's despotism reduces itself to the discretion which he must possess as to carrying out legal acts, while in the sphere of administration the Colonial Office has never attempted to lay down any code of regulations.

A. BERRIEDALE KEITH.

REDEMPTION, HINDU AND CHRISTIAN. By SIDNEY CAVE, D.D. The Religious Quest of India. London: Humphrey Milford. Oxford University Press, 1919.

This book, like others in the same series, marks the attitude of the new school of Christian missionaries towards Hinduism. Earlier teachers, like W. Ward and Abbé J. A.

[1] *Secretary of State v. Cockcraft*, I.L.R. 39 Mad. 351.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Dubois, were vigorous critics of the animistic type of Hinduism and devoted less attention to its theological and philosophical aspects. Since their time, while the propaganda has gained considerable success among the outcast and primitive tribes, it has encountered serious opposition from the new Hinduism stimulated by political aspirations, and in particular from the Ārya Samāj. Hence has arisen a change in missionary methods. There is less denunciation of the grosser types of Hinduism, more toleration towards its nobler elements and its philosophy, and an attempt is made to show that these latter are not inconsistent with, but find their highest development in, Christianity. Dr. Cave, dealing with the "Presuppositions of Essential Hinduism", reviews in order the religion of the Rigveda and the beginnings of Brahmanic speculation; the theology and philosophy of the Upanishads; the Vedānta; the Bhagavadgītā; and the "Lovers of God", like Tukārām, Tulsī Dās, and Māṇikka Vāśagar. While there is little originality in his treatment of these well-worn subjects, his exposition of the progressive development of Hinduism in its doctrinal and philosophical aspects is based upon a sound knowledge of the original sources and adequate learning in comparative theology. In the latter part of the book he attempts to show that in Christianity the problem of retribution is more adequately faced, and that the devotion of the Bhakta is realized in the worship of the Founder of Christianity. Discussion of these arguments would be out of place here. The book seems specially adapted for use in Missionary Colleges, where its influence will be excellent. All students of Hinduism will welcome this dignified, tolerant, and learned exposition of Hindu doctrine and philosophy.

W. Crooke.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

SHEKEL HAKODESH. The metrical work of JOSEPH KIMCHI, now edited for the first time from MSS. of the Bodleian with an English translation, introduction, notes, etc., to which is added YESOD HAYIRAH (so), from MSS. in the British Museum, with an English translation and notes by HERMANN GOLLANCZ, M.A., D.Lit. pp. 125 and 87. Milford, Oxford University Press, 1919.

Joseph Kimḥi, the father of the eminent David Kimḥi, was a prolific Hebrew writer of exegetical grammatical works, and flourished in the earlier half of the twelfth century. He also tried his hand at Hebrew verse, not, indeed, original poetry, for which he evidently had no talent, but the versification of parts of a famous ethical work by an unknown author. This work, styled *Sheqel Haqqōdesh*, forms the subject of the above-named study. The work upon which it is based is the *Choice of Pearls*, a popular collection of about six hundred and fifty moral sayings, and one of the puzzles of mediaeval Hebrew literature. So much has been written in the endeavour to discover its author that it is unnecessary to discuss it again here. Professor Gollancz appears to be inclined to look upon Solomon b. Gabirol, if not as the author, at any rate as the compiler of the "Choice" and its translator from Arabic sources. Yet on a later page of the Introduction he seems to doubt even this. I do not think that there is any justification for connecting Ibn Gabirol's name with that work at all. Mediaeval Hebrew literature abounds in pseudonymous works fathered on famous authors. There is little doubt that the "Choice" would never have become so popular but for the fact that it was ascribed to Ibn Gabirol. There is, on the other hand, strong negative evidence. *First*, Ibn Gabirol's short life was so replete with poetic, liturgical, and philosophic works that it is difficult to see how he could have collected, translated, and arranged so large a number of moral sentences culled from the writings of many authors, both Greek and Arabic; *second*, it is not likely that an original thinker, who under the name of Avicebron, occupied an

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

honoured place in mediaeval philosophy, should have been contented with merely popularizing the apophthegms of other persons. I feel strongly inclined to doubt the Jewish authorship of the book, as the theological passages in it are so vague that they might well have been written by a Moslim. Moreover, the longest chapter (xliv) of the book is of such a gloomy and ascetic tone that it suggests Sūfic influence. The book seems rather to belong to the class of Arab writings on philosophy and ethics, the originals of which were lost, the Hebrew translations alone being saved. A case in point is the *Aphorisms of Philosophers* by Ḥonein b. Isḥāq, the Hebrew version of which is supposed to be one of the sources of the "Choice". Whether the Hebrew translator was Judah b. Tibbon or not, is likewise open to grave doubts. The only thing certain is that Joseph Kimḥi attached great importance to it, and thought it his duty to make the "Choice" still more popular by turning a number of paragraphs into metrical and rhymed verse. The last word of each paragraph intimates the number of lines it contains. Professor Gollancz presents a careful edition of this text according to two MSS. in the Bodleian Library. For the benefit of readers who might wish to compare it with the "Choice" he has added a concordance of more or less similar passages. This must have entailed much work, but it was a labour of love. The notes contain a full collation of the two MSS. and references to a number of other works. The book is further enriched by reprints of the *Foundation of Religious Fear*, the original of which was first edited by Dr. Baer. Professor Gollancz wished the student of this class of literature to find these works of similar tendency side by side in one volume. For the same reason he also re-edited his English version of the last-named work. The volume, which is beautifully got up, is the fruits of assiduous labour and research.

H. HIRSCHFELD.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

THE LIFE AND STORIES OF THE JAINA SAVIOR PĀRÇVANĀTHA. By MAURICE BLOOMFIELD.

This "essay", to use the author's own description of his work, consists of a summary or analysis of the contents of the *Pārçvanātha Caritra*, by Çrī Bhāvadēvasuri, one of the Jaina pontiffs, recently edited by two Indian scholars, and published at Benares (1912). Professor Bloomfield has exercised a wise discretion in presenting us with a sketch of its contents, in preference to attempting a complete translation of the whole. Pārçvanātha was the penultimate Jaina Tīrthaṁkara, or Saviour, traditionally believed to have been born in 817 B.C.; the last Tīrthaṁkara, Mahāvīra, his successor, having come into the world 250 years later. This Jaina work affords us no very great insight into the intricacies of Jaina philosophy, but it is interesting in that it brings together a mass of ancient Indian legendary tales and fanciful stories, which in part, like the Buddhist jātakas, cluster round the supposed previous incarnations of the sage and the members of his family. In the fifth sarga we are told of his last birth; and from there to the end, where his entrance into nīrvāṇa is related, the book tells of his doings on this earth, his sermons and the illustrative tales by which he sought to enforce his doctrines, his moral precepts, and incitements to virtue. Some of these parables are already well known, such, for instance, as the tale of King Çibi and his self-sacrifice.

Of great value are the author's "additional notes" at the end of the volume. Some of these are purely linguistic and grammatical; but he devotes 25 pages to a study of parallelism in the motifs of the tales, with a bibliography of each to assist the student, and this section of the work is most welcome.

R. S.

THE KESAVA TEMPLE AT BELUR. By R. NARASIMHACHAR.

This monograph is the second of the archæological series, *Architecture and Sculpture in Mysore*, published by the Mysore

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Government. It deals with a temple regarding which James Fergusson (*Architecture in Dharwar and Mysore*, 44, 48, 49) wrote: "[It is] perhaps as perfect an example of the decorative skill of a Hindu architect as any to be found in India," and he added that the building "combines constructive capacity with exuberant decoration to an extent not often surpassed in any part of the world". In another passage this most competent judge spoke of "the marvellous elaboration and beauty" of the details; and concerning one portion of the structure declared that "the amount of labour which each facet of this porch displays is such as, I believe, never was bestowed on any surface of equal extent in any building in the world".

These words of praise are most thoroughly deserved. One has only to turn over the pages of this attractive publication and glance at the numerous illustrations (forty-five plates in all, mostly photographic) to realize that the Belūr Temple is a veritable triumph of human skill and patience. Once the architect had completed his scheme of construction he seems to have handed over the entire structure to a number of rival sculptors, who seized on every fragment of visible material and systematically carved the hard stone into a mass of decoration, each challenging the other to produce the most ornate, most elaborate, and most finished result. The wealth of adornments is, it is true, superabundant, but none the less it is unapproachable for its richness.

Figures of the gods and goddesses, dancing-girls, and others in human shape abound, and these, though somewhat squat and for that reason a trifle ungraceful to the European eye, are in many instances remarkable for the life and energy of their postures. The dancing figure, for instance, at the top left of plate xvi, affords an excellent example of this quality. The artist, rejoicing in his freedom, seems to have completely thrown aside all the cramping trammels of stereotyped Hindu iconography, and gone to Nature for his inspiration. Foliage of trees is rendered in most cases by exquisite scroll-

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

work, but on plate XXX is shown another instance of emancipation from rule, for the branches here are treated as falling downwards in long sweeps from the parent stem—treatment perhaps unique in India, but to be seen in Cambodian and Javanese mediaeval sculpture.

Belūr is situated on the bank of the Hemāvatī River, in the Hasan Taluk of Mysore. In the early twelfth century A.D. it was the capital of the kings of the Hoyśala dynasty, one of whom, Vishṇuvardhana, caused the temple to be erected. He set up the principal image therein in A.D. 1117, and caused an inscription to be engraved to commemorate the event on the wall of the central hall. How much of the existing ornamentation was carried out by the founder we have no means of knowing, but it is certain that part of it, including the rich frames of the doors and the wonderful perforated screen-work, was due to the piety of his grandson, Ballāḷa II. Several of the attached buildings are of later date.

The names of many of the artists employed are engraved beside the results of their work, and the titles given to them prove not only that their labour was a labour of love, but that by their zeal and devotion they earned, as they had the right to earn, a highly honourable position in the courts of their sovereigns.

Mr. Narasimhachar and his assistant, Mr. T. Namassivayam Pillai, are to be heartily congratulated on their achievement. The book will appeal to all true lovers of Art no less than to all Oriental archæologists.

R. S.

THE KALPA-SŪTRA OF BHADRABĀHU, WITH THE COMMENTARY SUBŌDHIKĀ OF VINAYAVIJAYA GAṆĪ. Fol. 304 ff. Published by the Jaina Ātmānanda Sabhā, Bhavnagar; Bombay printed. 1915.

The publication of this fine volume, printed with the handsomest type and on the best paper of the Nirṇaya-sāgara

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Press, is a *puṇya* of Mr. Choonilal Sakulchand of Bombay, who has generously defrayed the attendant expenses. To the bounty of such pious *śrāvakas* we owe the publication of many valuable and interesting works of Jain literature, and it is much to be desired that this godly and enlightened example may be followed by many others, both within and without the fold of Mahāvīra. As regards the contents of the book, it may be admitted that it does not add very much to our knowledge. The Prakrit text of the Kalpa-sūtra has already been published several times; besides the edition of Professor Jacobi, the Nirṇaya-sāgara Press printed it in 1914 and 1915, and another edition appeared at Ajmer in 1916, while an earlier edition of both the text and the commentary of Vinayavijaya was issued at Surat in 1911 as part of the Dēvchand Lālbhāi Series. Nevertheless, in view of the enormous importance of the Kalpa-sūtra in the religious life of the Jain community, there is ample room for this new edition, while Vinayavijaya's Subōdhikā will probably be found useful in the cases where experience has shown the need of "more light" than can be found in the ancient exposition of the text.

L. D. B.

JAVAANSCHE SPRAAKKUNST. By H. N. KILIAAN. pp. xxxi and 368. The Hague: Martinus Nijhoff. 1919.

This is the work of a scholar who already has to his credit a grammar of the cognate Madurese language, and it is a very full treatment of his subject. The author has given sentences and phrases in illustration of the grammatical principles and usages he discusses, and he sometimes criticizes the views of earlier grammarians. So far as can be judged by one who is not himself an expert on the Javanese language, the grammar seems to be a very good and useful one, even if there is much in it that from the strictly grammatical point of view might be considered as surplusage.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The author's attempt to explain the modern forms of the letters of the Javanese alphabet from those of Nāgarī is, however, not merely outside the legitimate compass of a grammar, but also fundamentally misconceived. The Javanese alphabet belongs to an entirely different group of Indian alphabets, having descended by a distinct line from the ancient Brahmī without ever having passed through a phase at all resembling the characteristic forms of Nāgarī. A few hours' careful study of the palæographical tables of Holle and Bühler will suffice to convince anyone of that simple fact, and it is to be regretted that the author of this grammar should have gone out of his way to introduce an unnecessary and misleading theory on Javanese palæography into a work where it is altogether out of place.

C. O. Blagden.

Simon Hewavitarne Bequest. Paramattha dípaní or The Commentary of the Petavatthu. Edited by Siri Dhammáráma Tissa Náyaka Théra and Mápalagama Chandajóti Théra, Assistant to the Principal of the Vidyodaya Oriental College, Colombo. Finally revised by Mahagoda Siri Ñánissara Théra Tripitaka Wágíswarácárya and Pradhàna Nàyaka, Principal Vidyodaya Oriental College, Colombo. Published by the Trustees, Dr. Charles Alwis Hewavitarne, Srinath Kumaradas Moonesinghe, Esq. The Tripitaka Publication Press, Saraswati Hall, Pettah, Colombo (Ceylon). 1917. Also vols. ii, iii, and iv of the same series.

There are few scripts so annoying to read as the Siñhalese when set off with bad printing and bad paper. These were too often the mark of an edition from Ceylon, otherwise very helpful to the student of Pali Texts. It is a pleasure to open a printed text that seems—and indeed is—like the old palm-leaf manuscript copies produced as an act of piety. Such is

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the edition of certain of the early Pali commentaries in course of publication by the Trustees under the will of the late Simon Hewavitarne. As the publisher's note to vol. i tells us, Mr. Hewavitarne died in 1913, leaving by will the necessary funds for printing the Pali texts of the Commentaries and bringing out a text of the Pali Tripitaka. The wishes of the testator were carefully carried out by his executor, Mr. Edmund Hewavitarne, the work of editing being allotted to a body of Theras, chosen after consultation with Professor Kosambi and visits to various temples.

After Mr. Edmund Hewavitarne's greatly regretted death in 1915, the work was continued by Dr. C. A. Hewavitarne, who still directs it. His prefatory note to vol. iii of the series contains information which is of interest to editors in Europe and those who are inquiring into the trend of Pali studies and Buddhist teaching in Ceylon. We learn that the commentaries on that very important body of Sutta Scriptures, the Khuddakanikāya, are not "in general use in Ceylon". In editing the Theragāthā commentary there were difficulties of which we have often heard ever since Professor Hermann Oldenberg wrote the instructive preface to his edition of the Theragāthā for the Pali Text Society years ago. Suriyagoda Sumangala Thera writes: "We were not successful in obtaining a complete copy of the commentary either from Ceylon or Burma, and all the copies that we obtained are incomplete and end with the fourteenth chapter."

Dr. Hewavitarne adds: "If these remaining seven nipatas are in existence I hope to publish them later as a supplement. I take this opportunity to ask the learned Theras and the public to kindly send me copies of the missing portion for future publication."

Dr. Hewavitarne further gives a list of the texts in preparation, showing how actively the collective work is carried on. A complete description and appreciation of the volumes of the series received by the Royal Asiatic Society would take more than our allotted space. It must suffice

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

to say that they are a welcome and handsome edition to the Society's Pali Library. Besides interesting prefaces and portraits, the volumes have each a table of transliteration of the Pali-Siñhalese into the Roman character, and an index. We welcome in this and other modern publications a sign that the material difficulties for Siñhalese editors are less than they were, while the standard of Buddhist scholarship remains at its old height in the Ceylon community.

M. H. B.

THE SCIENTIFIC STUDY AND TEACHING OF LANGUAGES. By HAROLD E. PALMER.

This is a book by no means easy to read at the first attempt, and it is well worth the while of any student or teacher to go through it carefully more than once. The author, a language teacher of considerable experience, is an enthusiast who is ever on the look-out for means of improving his linguistic equipment, and his book is an endeavour, and I may at once say a very successful one, to analyse the various methods of teaching languages, and to sift the wheat from the chaff. Whatever any student's or teacher's own experience and preferences may be, he cannot fail to learn something of value to himself by a careful perusal of the work.

Mr. Palmer has come to the conclusion that the study and teaching of language are still in an empirical stage, that they could be made scientific, and that the time has now arrived when all those interested in the question should put their heads together and try to attain this object. At present language teaching is in a chaotic state, and it is a rare thing to find teachers in any one establishment making any effort to co-ordinate their work, and in cases where several languages are taught the various methods employed by the different teachers are absolutely bewildering to the pupils. Few people will see "eye to eye" with the author, for in the study and teaching of language, as of other subjects, the temperament

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

and the individuality of both teacher and student must be taken into account, but I think no one could fail to have his mind stimulated and his ideals raised after having read what Mr. Palmer says.

In the introductory section of the book the question of scientific study is discussed, and suggestions are made as to the ways in which a sound method might he evolved. "The reformation and standardization of language study must be effected primarily through the writer of methods, for a rational book . . . will show the teacher what to do and when and how to do it . . . The teacher is often himself a method-writer ; if he is not, he is generally a method-criticizer, for it is comparatively rare to find a teacher in complete agreement with the views of the author whose book he uses."

The second part deals very fully with the nature of language, which Mr. Palmer claims to be a series of natural phenomena, and he says that "the only aspect of language in which the conscious will of man can manifest itself is that concerned with its graphic representation. The alphabetic aspect alone is artificial ; the literary aspect is artistic, the rest is natural science". A very careful analysis of the nature of language follows. The section on monologs (words considered merely as conventional units of vocabulary in virtue of their being (*a*) written all in one piece, (*b*) separated by a break or space from the words with which they may happen to be juxtaposed), polylogs (units of two or more monologs in juxtaposition, but functionally and semantically equal to monologs), and miologs (significant or functional units, such as affixes), is excellent. The following is the author's summary of the units of language :—

Sounds (the units of phonetics).
Phonemes (the units of phonology).
Letters (the units of orthography).
Etymons (the units of etymology).
Semanticons (the units of semantics).
Ergons (the units of ergonics).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Parts iii and iv, on the Factors and Principles of Linguistic Study, are of special interest to the teacher, dealing with the manner in which he should attack his teaching, with due regard to the pupil's nature and acquirements, as well as the latter's aims in learning a given language. Five objective factors must be also taken into account :—

(*a*) The language to be studied.
(*b*) The orientation of the study.
(*c*) The extent of the study.
(*d*) The degree of the study.
(*e*) The manner of the study.

Some very ingenious and interesting diagrams are given, suggesting graphically the shortest and best ways of arriving at perfect comprehension. At the end of the fourth section are set out the respective advantages and disadvantages of subconscious and conscious study.

Part v contains an "Ideal Standard Programme" in considerable detail. For a teacher of Mr. Palmer's calibre it *is* ideal, but unfortunately the number of those who possess his energy, initiative, and inventiveness is limited, and there are few who could carry out his programme in all its details. Nevertheless, none but a purely mechanical teacher, with little or no interest in his work beyond that of payment, could fail to profit by studying this section and putting into practice at least some of the suggestions. It is worthy of note that in this section considerable importance is attached to phonetics, by which is meant a thorough training in the appreciation and reproduction of the speech sounds of the language studied (in the programme, French), not as so many people wrongly suppose, the use of phonetic symbols, which are after all merely accessories, not essentials. The science of phonetics—for it is a science—has fallen into a certain amount of disfavour, because so many language teachers acquire an elementary and very superficial knowledge of the subject and then with mistaken enthusiasm become protagonists.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

They are like the stony ground of the parable, they produce no permanent fruit. I have known cases of pupils who after a few, very few, lessons in the phonetics of their own language only boldly advertise themselves as teachers of phonetics!

The subject of special programmes is treated in part vi.

The question of the functions and qualifications of the teacher are discussed in part vii. "The first qualifications of the expert teacher are a knowledge of the foreign language and of the student's native tongue, and the ability to organise the programme, to choose the appropriate material and the most appropriate means of conveying and of inculcating it." Personally I do not think that a knowledge of the student's native tongue is a necessary, though it is certainly a helpful, qualification. Section 34 details the "six vicious tendencies" to which all students are to a certain extent liable: "it is one of the most important functions of the teacher," says the author, "to react against these."

For students of Oriental and African languages, especially those of which the grammar has not yet been systematized, part viii is the most important in the book. It deals with two categories of students, (*a*) those who are unable to command the services of any teacher whatever, (*b*) those to whom the services of casual or non-expert teachers alone are available. But such students must not imagine that the study of this part without the rest of the book will be of great profit to him. The whole question of language study is so complex and so difficult that anyone who wishes to get the full benefit from any one part of the book must read it as a whole. The content of the blue paper of a Seidlitz powder is useless without that of the white. Similarly all the parts of this book are complementary to one another, and a dose of part i is ineffective without the proper doses of the other parts.

From the teacher's point of view the Ergonic Chart in Appendix I is of great interest and full of practical suggestions. A glossary of terms and a full index add considerably to the value of the work.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

In conclusion I say to teacher and student alike: "Get the book; read, mark, learn, and inwardly digest."

G. NOËL-ARMFIELD.

HISTORY OF AURANGZIB. By JADUNATH SARKAR, M.A. Vols. III (1916) and IV (1919). Sarkar & Sons (Calcutta), Heffer & Sons (Cambridge).

The first two volumes of this work, dealing respectively with the early life of Aurangzīb and the war of succession, were noticed in the Journal for October, 1913. In the volumes before us Professor Sarkar covers the ground rather more quickly. One gives the history of the first half of the reign (1658–81), while the other is devoted to the events in Southern India from 1645 to 1689. In both he shows, as before, the wide range of his researches, his critical judgment in dealing with his materials, and his gift of lucid and graphic narrative. His work is based on both printed and manuscript documents, the latter including not only Persian and Marāthi chronicles but also letters of the English factors at Surat and other places. It is easily the best authority on the period with which it deals. Such a production does credit to Indian scholarship, and the author is to be congratulated alike on the courage he has shown in undertaking so heavy a task and on the skill he has displayed in its execution.

W. F.

THE AḤMADĪYA MOVEMENT. By H. A. WALTER. Oxford University Press, 1918.

The Aḥmadīya Movement is a new sect which arose among Muslims in the Punjab in 1889 and has spread out in several directions and grown to considerable strength. It may be called the Muhammadan parallel to the Ārya Samāj. The founder, Mīrzā Ghulām Aḥmad, declared himself to be at once the Mahdī, the Christian Messiah, and a Hindu incarnation, and yet the movement has a number of noticeable

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

modern features. It stands seriously opposed to the rationalizing spirit of Sir Syed Aḥmad Khan and the Aligarh College, on the one hand, and to stiff unmoving Muslim orthodoxy on the other. It attempts to preserve the real central religious spirit and teaching of Islam and also to receive modern influences from the West.

The author of the book under review was one of the literary secretaries of the Y.M.C.A. in India, a young American of great promise, but he died of influenza on November 1, 1918, just before the publication of the book. It is a most serious attempt to get at all the facts and also the real spirit and aims of the movement. Careful research, accuracy, sympathy, and fairness mark the work from beginning to end.

It is published as a volume of the Religious Life of India series, which has been planned in order to describe the leading sects of Hinduism and Islam and the chief outcaste communities of India. *The Village Gods of South India*, by the Bishop of Madras, is the first volume of the series; *The Aḥmadīya Movement* is the second; while the third, *The Chamārs*, is in the press.

J. N. FARQUHAR.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

NOTES OF THE QUARTER

(January–March, 1920)

General Meetings of the Royal Asiatic Society

March 30, 1920.—Mr. F. E. Pargiter, Vice-President, in the Chair.

The following thirty-four candidates were elected members of the Society :—

Mr. S. Laiq Ahmad Ansari.
Dr. Debi P. Banerji, M.B.
Mr. Yājnavalkya Bharadwāja, M.Sc.
Mr. Cecil A. V. Bowra.
Mr. R. L. Chopra, M.A.
Babu Tarakchandra Das.
Prof. Bhava Datta, Shastri.
Kumar H. Krishna Deb.
Maharajkumar Sri S. S. Sing Deo.
Mrs. R. L. Devonshire.
Mr. Dinanath Mazumdar, M.A.
Mr. Gwilym Colby Edwards.
Mr. Haripada Ghosal, M.A.
Mr. Qazi Fazl-i-Haqq, M.A.
Mr. A. N. M. Ali Hasan, M.A.
Mr. W. Ivanow.
The Rev. Arthur Jeffery, M.A.
Prof. Ram S. Kaushala, Vidyabhūsana.
Lieut.-Col. H. W. Knox-Niven.
Pandit D. K. Laddu.
Mr. Narāyanaswāmi Mudalyer.
Mr. M. Mohan Mukerji, M.N.D.M.
Babu Pirthi Nath.
Babu Kshitish Chandra Pal, B.A.
Mr. Harry Phibbs, A.R.I.B.A., F.L.I.
Mr. Samuel Raffaeli.
Mr. M. Deva Sastri, M.A.
The Rev. Ahmad Shah.
Sahibzada Sadiq Ali Shah.
Mr. C. D. Prasada Sharma.
H.H. the Maharaja of Sonpar, K.C.I.E.
Mr. C. S. Srīnivāsāchāri.
Mr. Syed A. Hasan Rizwi, B.A.
Pandit C. Larayan Zutshi, M.R.P.A.

The meeting was followed by a Reception, which was largely attended by members and their friends, this being the first meeting held at the new quarters of the Society, 74 Grosvenor Street, W. 1.

An address was delivered by His Excellency the Chinese Minister on " The Influences of Western Education in China ".

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

This was followed by a resumé by the President, Lord Reay, who presided, of the history of the Royal Asiatic Society, with notes on the distinguished men who had taken part in its affairs from its foundation nearly a century ago up to the present time.

A fuller report of the speeches delivered on the occasion will be printed in the July number of this Journal.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ADDITIONS TO THE LIBRARY

Books

Presented by the Right Hon. Sir Ernest Satow, G.C.M.G., Ph.D.

Asakawa, K., Notes on Village Government in Japan after 1600. II. Reprint from J.O.A.S., vol. xxxi, pt. ii, 1911.

Aston, W. G., Kindai Geppio, 1844–63. Extract from the *Japan Mail* (about 1872).

Das, Sarat Chandra, Introduction to the Grammar of the Tibetan Language with the Texts of Situ Sumtag, Dag-je Sal-wai Mé-long, and Sitni Shal-lung. Darjeeling. 1915.

Ferguson, Donald, Letters from Portuguese Captives in Canton. Reprinted from the *Indian Antiquary*. Bombay, 1902.

Griffis, W. E., Hepburn of Japan. Philadelphia, 1913.

Hall, J. C., Japanese Feudal Law. Pamphlet.

Imai, Rev. J. T., Bushido in the Past and in the Present. Tokyo, 1906.

Kenchio, Suyematz, Genji Monogatari. London, 1882.

Ligneul, F. A., Les Trappistes au Japon. Pamphlet. Tokyo, 1898.

Lloyd, Arthur, The Creed of Half Japan. London, 1911.

Matsumura, Jinzo, A Classified Etymological Vocabulary of the Japanese Language, ancient and modern. Tokyo, 1916.

—— List of Plants found in Nikko and its Vicinity. Tokyo, 1894.

Nakamura, Katsumaro, Lord Li Naosuké and New Japan. Tokyo, 1909.

Nitobé, Inazo, Bushido, the Soul of Japan. Philadelphia, 1900.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Puini, Carlo, Saggi di Storia della Religione. Firenze, 1882.

Saint-Denys, Hervey de, Mémoire sur l'Histoire ancienne du Japon. Paris, 1872. MS. copy made by the late Philippe Burty.

Sandwith, J. H., A Trip into the Interior of Japan, August, 1871. Yokohama, 1872.

Siebold, H. von, Ethnologische Studien über die Aino auf der Insel Yesso. Berlin, 1881.

Townsend, W. E., In Memoriam. Privately printed, 1901.

Books

Archæological Department, Mysore. Annual Report, 1919. *Bangalore*, 1919. *From the Author.*

Archæological Department, Southern Circle, Madras. Annual Report, 1918–19. *Madras*, 1919.
From the Secretary of State.

Archæological Survey of India, Northern Circle. Annual Progress Report (abridged) of the Superintendent Muhammadan and British Monuments. *Allahabad*, 1919.
From the Government of India.

Bibliotheca Indica : A Collection of Oriental Works. A large number of parts of the various publications. *Calcutta.*
From the Secretary of State.

Burney Papers, Index. Vol. i, October, 1825–April, 1826, to vol. v, pt. i, July, 1786–1839.
From the Vajirayan National Library, Bangkok.

Caland, W., Das Jaiminīya-Brāhmana in Auswahl. *Amsterdam*, 1919. *From the Author.*

Calendar of Persian Correspondence. Imperial Record Department. Being Letters which passed between some of the Company's Servants and Indian Rulers and Notables. Vol. iii, 1770–2. *Calcutta*, 1919.
From the Government of India.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Ceylon Administration Reports, 1918. *Colombo*, 1919.
From the Government of India.

Cotton, C. W. E., Handbook of Commercial Information for India. *Calcutta*, 1919.
From the Indian Trade Commissioner.

Havell, E. B., The Ideals of Indian Art. *London*, 1920.
From the Publisher.

Huang, Feng-Hua, Public Debts in China. *Columbia University*, 1919. *From the Author.*

Huda, Syed S., The Principles of the Law of Crimes in British India. *Tagore Law Lectures*, 1902. *Calcutta.*

Korostovetz, J. J., Pre-War Diplomacy. The Russo-Japanese Problem. *From the Author.*

Lal, Rai Bahadur Hira, Signification of Geographical Names in the Central Provinces and Berar.

—— Damoh District Gazetteer (in Hindi).

—— Jubbulpore District Gazetteer (in Hindi). 1919.
From the Author.

Laufer, B., Sino-Iranica. Chinese contributions to the History of Civilization in Ancient Iran. Field Museum of Natural History, Publication 201. Vol. xv, No. 3. *Chicago*, 1919. *From the Author.*

Moreland, W. H., India at the Death of Akbar : An economic Study. *London*, 1920. *From the Publishers.*

Narasimhachar, R., The Lakshmidevi Temple at Dodda-Gaddavalli. Mysore Archæological Series. Architecture and Sculpture in Mysore, No. 3. *Bangalore*, 1919.
From the Author.

Official Year Book of the Scientific and Learned Societies of Great Britain and Ireland, 1918–19. *London*, 1919.
Bought.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Rangacharya, V., Inscriptions of the Madras Presidency. 3 vols. *Madras*, 1919.
From the Government of India.

Smith, V. A. (the late), The Oxford Student's History of India. Eighth edition, revised. Maps and illustrations. *Oxford*, 1919. *From the Publishers.*

Soane, Major E. B., Elementary Kurmanji Grammar. *Baghdad*, 1919. *From the Author.*

Survey of India. General Report, 1916–17, 1917–18. *Calcutta*, 1918. 1919. *From the Surveyor-General of India.*

—— Records. Vol. x, 1915–16. *Dehra Dun*, 1917.
From the Superintendent, Trigonometrical Survey.

—— Records. Vol. xiii. (Supplementary to General Report, 1917–18.) *Dehra Dun*, 1919.
From the Surveyor-General of India.

Sykes, Miss Ella, and Sir Percy Sykes, Through Deserts and Oases of Central Asia. *London*, 1920. *From the Authors.*

University of Calcutta. Calendar, 1918 and 1919. Part i. *Calcutta*, 1919. *From the Secretary of State.*

Periodicals

Al-Machriq, 1920. 18e Année. Janvier, No. 1 ; Février, No. 2.

—— Mars, No. 3.

Cheïkho, L., L'Arabie Actuelle (*suite*) : Les Wahabites ; les Bani Rachid.

Salman, L'abbé P., Le droit-bédouin dans la Trans-jordane (*suite*).

American Journal of Archæology. Vol. xxiii, No. 4, October-December, 1919.

American Oriental Society Journal. Vol. xl, pt. i, February, 1920.

Bloomfield, M., The Dohada : A Motif of Hindu Fiction.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Astrological Magazine. Vol. xv, No. 8.

Bataviaasch Genootschap van Kunsten en Wetenschappen Oudheidkundig Verslag, 1919. Tweede Kwartaal.

Bhandarkar Institute Annals. Vol. i, pt. i, 1918–19.

Pathak, K. B., Sakatayana and the Authorship of the *Amoghavrtti*.

Sukthankar, V. S., On the Home of the so-called Andhra Kings.

Rajwade, V. K., An attempt to determine the meanings of certain Vedic words.

Banerji, R. D., The Chronology of the late imperial Guptas.

Bihar National College Magazine. Vol. ii, Nos. 2 and 3.

Bihar and Orissa Research Society Journal. Vol. v, pt. iv, December, 1919.

Crooke, W., Secret messages and symbols used in India.

Walsh, E. H. C., An Examination of fifty-eight Silver Punched Marked Coins found at Gorho Ghat.

Shastri, Mahamahopadhyaya H., Contributions of Bengal to Hindu Civilization.

—— Sisunaga Statues.

Smith, V. A. (the late), Dr. Barnett, and others, Saisunaka Statues : I to IV.

Panday, H. (the late), A Copper-plate Grant of Dandi Mahadevi (with plate).

Sikdar, J. N., and Amareswa Thakur, The Panchobh Copper-plate of Samgramagupta.

Sarkar, Jadunath, Travels in Bihar, A.D. 1608.

Khan, Khan Bahadur S. H., Translation of Maharaja Kalyan Singh's Khulasat-ut-Tawarikh.

Roy, Rai Bahadur S. C., Birth, Childhood, Puberty, and Death Customs of the Pabri Bhuiyas (with plates).

Samaddar, J. N., Use of Charms in Ancient Indian Literature.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bijdragen tot de Taal-, land- en Volkenkunde van Nederlandsch-Indië.

Ronkel, S. van, Een Maleisch getuigenis over den weg des Islams in Sumatra.

Hodenpijl, A. K. A. G., Gustaaf Willem baron van Imhoff als gouverneur van Ceylon, 1736–40.

Boston Museum of Fine Arts Bulletin. Vol. xviii, No. 105, February, 1920.

Burma Research Society Journal. Vol. ix, pt. iii, December, 1919.

Thein, Saya, The History of certain Burmese Characters.

Calcutta Review. No. 297, July, 1919.

Jameson, A. K., Gaur and Pandua.

Ceylon Antiquary and Literary Register. Vol. v, pt. ii, October, 1919.

Prakasar, Rev. S. G., Portuguese in Tamil.

Perera, Rev. S. G., The Jesuits in Ceylon in the sixteenth and seventeenth centuries.

Wijetunga, W. P., Some Sinhalese Customs and Folk-lore: Omens and Prognostications.

Ecole française d'extrême-orient. Bulletin. Tome xix, No. 3.

Parmentier, H., Catalogue du Musée Čam de Tourane.

—— Tome xix, No. 4.

Deloustal, R., La Justice dans l'ancien Annam Code de Procédure: Traduction et Commentaire.

Epigraphia Birmanica, being Lithic and other Inscriptions of Burma. Archæological Survey of Burma. Vol. i, pt. i.

Myazedi Inscription (with plates).

Geographical Journal. Vol. lv, No. 2, February, 1920.

—— Supplement. No. 4, December, 1919.

—— Vol. lv, No. 3.

Philby, H. St. J. B., Southern Najd.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Histoire des Religions. Revue. Tome lxxix, No. 1, Janvier-Février.

—— Tome lxxix, No. 2, Mars-Avril.

Piepenbring, C., La Christologie biblique et ses origines (I).

Causse, A., Essai sur le conflit du Christianisme primitif et de la civilisation (II).

Indian Antiquary. Vol. xlviii, pt. DCIV. January, 1919.

Venkatasubbiah, A., The Chronology of the Western Châlukyas of Kalyâni.

Mitra, Sailendranath, Identification of *Vinayasamukase* in Asoka's Bhabra Edict.

—— Vol. xlviii, pt. DCV, February, 1919.

Basak, Radha Govinda, The words *Nivî* and *Vinîta* as used in Indian Epigraphs.

Majumdar, Surendranath, Sastri, Contributions to the Study of the Ancient Geography of India.

Man, E. H., Dictionary of South Andaman Language.

—— Vol. xlviii, pt. DCVI, March, 1919.

Chanda, Ramaprasad, Inscriptions on two Patna Statues in the Indian Museum.

Majumdar, R. C., Alleged Śaiśunâga Statues.

Man, E. H., Dictionary of South Andaman Language.

—— Vol. xlviii, pt. DCVII, April, 1919.

Temple, Sir R., Notes on Currency and Coinage among the Burmese.

Majumdar, N. G., Patna Museum Inscription of Jayasena.

—— Vol. xlviii, pt. DCVIII, May, 1919.

Temple, Sir R., Notes on Currency and Coinage among the Burmese.

Mitra, Panchanan, New Light from Prehistoric India.

Aiyangar, S. K., The Hun Problem in Indian History.

—— Vol. xlviii, pt. DCIX, June, 1919.

Bhandarkar, D. R., Dekkan of the Sâtavâhana Period.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Law, N. N., Ancient Hindu Coronation and Allied Ceremonials.

Aiyar, B. V. Kamésvara, The Lunar Zodiac in the Brāhmaṇas.

Basak, R., Chandra's Conquest of Bengal.

—— Vol. xlviii, pt. DCX, July, 1919.

Temple, Sir R., Notes on Currency and Coinage among the Burmese.

Ayyar, A. V. V., The Life and Times of Châlukya Vikramâditya.

Dikshit, K. N., Numismatic Notes.

Bhide, H. B., Is Kalkirâja an Historical Personage?

Jayaswal, K. P., The Jogîmârâ Cave Inscription.

Indian Magazine, January, February, March, 1920.

Institut d'Égypte. Mémoires. Tome i, 1919.

Ruffer, Sir Arnaud (the late), Food in Egypt.

Journal Asiatique. Sér. xi, tome xiv, No. 1.

Ferrand, M. G., La K'ouen-louen et les anciennes navigations interocéaniques dans les mers du Sud.

Danon, M. A., Contributions à l'histoire des Sultans Osman II et Mouçtafà Ier.

Saussure, M. L. de, La symétrie du zodiaque lunaire Asiatique.

—— Sér. xi, tome xiv, No. 2.

Ferrand, M. G., Le K'ouen-louen et les anciennés navigations interocéaniques dans les mers du Sud.

Danon, M. A., Contributions à l'histoire des Sultans Osman II et Mouçtafà Ier.

Foucher, M. A., Les fouilles de Taxila.

Maha-Bodhi. Vol. xxvii, Nos. 10–12, October–December, 1919.

Manchester Egyptian, and Oriental Society Journal, 1918–19.

Blackman, A. M., The Sequence of the Episodes in the Egyptian Daily Temple Liturgy.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Davies, T. Witton, The infinitive, especially the infinitive absolute in Hebrew and its cognates: a study in comparative philology and translation.

Mythic Society. Quarterly Journal. Vol. x, No. 2, January, 1920.

Pali Text Society Journal. 1917–19.

Philadelphia Museum Journal. Vol. x, No. 3, September, 1919.

Royal Society of Arts Journal.

Royal United Service Institution Journal.

School of Oriental Studies, London Institution. Bulletin. Vol. i, pt. iii.

Brown, R. Grant, The Kadus of Burma.
Ali, A. Yusuf, Note on Urdu Orthography.
Barnett, L. D., The Matta-Vilāsa and "Bhāsa".
Giles, L., Notes on the Nestorian Monument at Sianfu (*continued*).
Grierson, Sir G., Indo-Aryan Vernaculars.
—— The Popular Literature of Northern India.
Ridding, C. U., and Poussin, L. de la Vallée, A Fragment of the Sanskrit Vinaya.

Service des Antiquités de l'Égypte. Annales. Tome xix, 1 fasc.

Edgar, C. C., Selected papyri from the archives of Zenon, Nos. 22–36.
Gauthier, H., Rapport sommaire sur les fouilles de l'Institut français d'archéologie orientale dans les nécropoles thébaines en 1917 et 1918.
Lefebvre, G., Egypte gréco-romaine (avec 4 planches).
Munier, H., Nahroou et les Actes de son martyre.

T'oung Pao. No. 3 et 4. Juillet et Octobre, 1918–19. Vol. xix.

Cordier, H., La Compagnie Prussienne d'Embden au xviiie siècle.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

United Empire. Vol. x, New Series, 1919. Vol. xi, New Series, No. 2, February, 1920.

Pamphlets

Brandstetter, R., Architektonische Sprachverwandtschaft in allen Erdteilen. *From the Author.*

Coomaraswamy, A. K., Indian Art in America. *From the Author.*

Hopkins, L. C., L'écriture dans l'ancienne Chine. Reprint from *Scientia*, January, 1920. *From the Author.*

India Office Library Catalogue. Vol. i. Accessions 8. *From the Secretary of State.*

Peserico, Luigi, Quanto visse Gesù.

—— I Sacrificî umani. Nelle tavole Eugubine. Estratto dalle Ricerche di Storia Etrusca. *Vicenza*, 1920. *From the Author.*

Rao, Tallapragada S., Bhavabhuti and his masterly genius. *Kovur*, 1919. *From the Author.*

Stein, Sir Aurel, The Desert Crossing of Hsüan-Tsang, A.D. 630. From the *Geographical Journal* for November, 1919. *From the Author.*

Zetterstéen, K. V., Herrn D. W. Myhrman's Ausgabe des Kitāb Mu'īd an-ni'am wa-mubīd an-niqam. Kritisch beleuchtet. *Uppsala*, 1913. *From the Bibliothèque de l'Université Royale.*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

For facility of reference this Appendix will be published with the April and October Numbers of the Journal.

TRANSLITERATION

OF THE

SANSKRIT, ARABIC,

AND ALLIED ALPHABETS

THE system of Transliteration shown in the Tables given overleaf is almost identical with that approved of by the International ORIENTAL CONGRESS of 1894; and, in a Resolution, dated October, 1896, the Council of the ROYAL ASIATIC SOCIETY earnestly recommended its adoption (so far as possible) by all in this country engaged in Oriental studies, "that the very great benefit of a uniform system" may be gradually obtained.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

I

SANSKRIT AND ALLIED ALPHABETS

अ . . . . a	ओ . . . . o	ट . . . . ṭ	ब . . . . b
आ . . . . ā	औ . . . . au	ठ . . . . ṭh	भ . . . . bh
इ i	क . . . . k	ड . . . . ḍ	म . . . . m
ई . . . . ī	ख . . . . kh	ढ . . . . ḍh	य . . . . y
उ . . . . u	ग . . . . g	ण . . . . ṇ	र . . . . r
ऊ . . . . ū	घ . . . . gh	त . . . . t	ल l
ऋ . . . . ṛ	ङ . . . . ṅ	थ . . . . th	व v
ॠ . . . . ṝ	च c	द . . . . d	श . . . . ś
ऌ . . . . ḷ	छ . . . . ch	ध . . . . dh	ष . . . . ṣ
ॡ . . . . ḹ	ज . . . . j	न . . . . n	स . . . . s
ए . . . . e	झ . . . . jh	प . . . . p	ह . . . . h
ऐ . . . . ai	ञ . . . . ñ	फ . . . . ph	ळ . . . . ḷ

ं (*Anusvāra*) . . .	ṁ	ऽ (*Avagraha*)	'
ँ (*Anunāsika*) . .	m̐	*Udātta*	´
: (*Visārga*)	ḥ	*Svarita*	̂
ᳵ (*Jihvāmūlīya*) .	ḫ	*Anudātta*	̀
ᳶ (*Upadhmānīya*) .	ḫ		

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ARABIC AND ALLIED ALPHABETS

ا at beginning of word omit; elsewhere . . . ء or ٥		ک . . . . k	ا . . . . ā
		ل l	ِ i
ب . . . . b	س . . . . s	م . . . . m	ُ . . . . ū
ت . . . . t	ش . ṣ or sh	ن . . . . n	
ث . t or th	ص . . ṣ or z	و . . w or v	DIPHTHONGS.
ج . j or dj	ض ḍ, dz, or z	ه . . . . h	َيْ . . . . ai
ح . . . . ḥ	ط . . . . ṭ	ي . . . . y	َوْ . . . . au
خ . ḥ or kh	ظ . . . . ẓ		wasla . . . ٱ
د . . . . d	ع . . . . ع	VOWELS.	hamza ء or ٥
ذ . ḍ or dh	غ . ġ or gh	َ . . . . a	silent t . . ة
ر . . . . r	ف . . . . f	ِ i	letter not pro-
ز . . . . z	ق . . . . q	ُ . . . . u	nounced . . ـ

ADDITIONAL LETTERS

PERSIAN, HINDI, AND PAKSHTŪ.	TURKISH ONLY.	HINDI AND PAKSHTŪ.	PAKSHTŪ ONLY.
پ . . . . p	ک when pro-	ٹ or ت . ṭ	څ . . . tṣ
چ . c or ch	nounced as	ڈ or د . . ḍ	ږ . . . ġ
ژ . ẓ or zh	g . . . . k	ڑ or ر . . . ṛ	ڼ . . . ṇ
گ . . . . g	ڭ . . . . ñ		ښ . . . ksh

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Day of the Crescent

GLIMPSES OF OLD TURKEY

By G. E. HUBBARD, lately H.M. Vice-Consul for the Villayet of Mosul. Demy 8vo. With 16 illustrations.

Turkey in defeat contrasts with Turkey triumphant, and this picture of the golden age of Turkey should be of special interest at the present time. The book appeals to the sense we all possess for the exotic and picturesque, and throws fresh light on the history and character of the Turks.

The Poems of 'Amr

Son of Qamī'ah of the Clan of Qais, son of Tha'labah, a branch of the tribe of Bakr, son of Wā'il.

Edited and translated by SIR CHARLES LYALL, D.Litt., F.B.A. Demy 4to. 21s net.

'Amr, son of Qamī'ah, who lived in the 5th century A.D., belonged to the great tribe of Bakr, son of Wā'il, and to the section of it called after Qais, son of Tha'labah. Of his life very little is recorded by tradition. A few only of his compositions, mostly short, are well known. 'Amr is rather sparingly cited in works of *Adab* or *Belles-lettres*, perhaps because his style is, like that of the earlier poets in general, simple and easily intelligible, and free from *takalluf* or *curiositas*.

The Dîwân of Ghailân Ibn 'Uqbah

known as Dhu'r-Rummah.

Edited by C. H. H. MACARTNEY, sometime scholar of Clare College, Cambridge. Crown 4to. £5 5s net.

"Orientalists, who alone can appreciate the difficulties which have been surmounted, will congratulate Mr Macartney on the publication of this splendid edition, the fruit of much labour and learning."—*The Westminster Gazette.*

Cambridge University Press

Fetter Lane, London, E.C. 4: C. F. Clay, Manager

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

THE JOURNAL

OF

THE ROYAL ASIATIC SOCIETY

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

THE

JOURNAL

OF THE

ROYAL ASIATIC SOCIETY

OF

GREAT BRITAIN AND IRELAND

FOR THE FIRST HALF-YEAR OF 1920

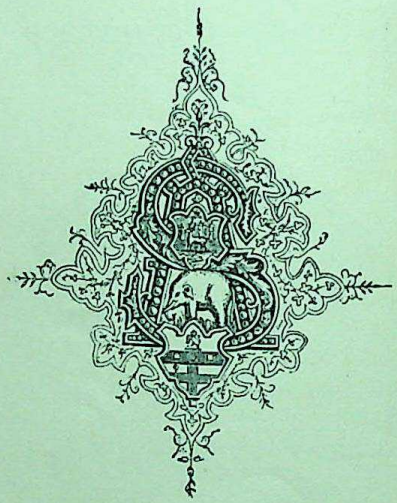
PUBLISHED BY THE SOCIETY
74 GROSVENOR STREET, LONDON, W. 1.

M DCCCC XX

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

STEPHEN AUSTIN AND SONS, LIMITED



PRINTERS, HERTFORD

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CONTENTS
FOR THE FIRST HALF-YEAR OF 1920

ARTICLES

PAGE

To the East of Samataṭa. By Prof. PADMANATH BHATTACHARYA, VIDYAVINOD, M.A. . . . 1

Man-istisu, in the Temple of Sara. By THEOPHILUS G. PINCHES 21

Babylonian Ritual and Sacrificial Offerings. By THEOPHILUS G. PINCHES 25

The Aryan Invasion of Northern India: an Essay in Ethnology and History. (*Concluded.*) By JAMES KENNEDY 31

The Hittite Language of Boghaz Keui. By the Rev. Prof. A. H. SAYCE 49

An Egypto-Karian Bilingual Stele in the Nicholson Museum of the University of Sydney. By A. ROWE. (With Plate.) 85

A Passage in the Mesha Inscription, and the Early Form of the Israelitish Divine Name. By Dr. A. COWLEY 175

The Historical Position of Rāmānanda. By J. H. FARQUHAR, D.Litt. 185

The Kharoṣṭhī Alphabet. By R. D. BANERJI . . 193

Invasion of the Panjāb by Ardashīr Pāpakān (Bābagān), the first Sasanian King of Persia, A.D. 226–41. By VINCENT A. SMITH 221

Identification of the "Ka-p'i-li Country" of Chinese Authors. By VINCENT A. SMITH 227

MISCELLANEOUS COMMUNICATIONS

Moses b. Samuel of Safed, a Jewish Katib in Damascus. By SAMUEL POZNANSKI 97

Kuru-Pañcāla. By F. E. PARGITER 99

Royal Asiatic Society 102

Bar Hebræus's Spiritual Ancestors. By A. J. WENSINCK 231

The Book of the Apple. By D. S. MARGOLIOUTH . 231

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

NOTICES OF BOOKS

PAGE

ALICE WERNER. Introductory Sketch of the Bantu Languages. Reviewed by E. TORDAY . . . 103

LOUIS I. NEWMAN and WILLIAM POPPER. Studies in Biblical Parallelism. By M. GASTER . . . 104

SAMUEL COOLING. The New China Review. By L. C. HOPKINS 106

SAMUEL A. B. MERCER, Ph.D., D.D. A Sumero-Babylonian Signlist. By T. G. PINCHES . . 107

Sir JOHN MARSHALL, Kt., C.I.E. Guides to Taxila and Sāñchī. By M. LONGWORTH DAMES . . . 108

HAR BILAS SARDA. Maharana Sāngā, the Hindupat, the last great leader of the Rajput Race. By V. A. S. . 113

RAMESH CHANDRA MAJUMDAR, M.A. Corporate Life in Ancient India.—RADHAKUMUD MOOKERJI, M.A., Ph.D. Local Government in Ancient India. By F. E. P. . 114

PRIYANATH SEN, M.A., D.L. The General Principles of Hindu Jurisprudence. By F. E. P. . . . 118

Professor JADUNATH SARKAR. Shivājī and his Times. By VINCENT A. SMITH 118

Note on the History of El-Yemen. By A. S. TUTTON . 121

C. A. KINCAID, I.C.S., and RAO BAHADUR D. B. PARASNIS. A History of the Marathi People. By H. BEVERIDGE 235

J. J. A. CAMPOS. History of the Portuguese in Bengal. By M. L. D. 238

NAGENDRANATH GHOSE. Comparative Administrative Law. By A. BERRIEDALE KEITH 242

SIDNEY CAVE, D.D. Redemption, Hindu and Christian. By W. CROOKE 248

HERMANN GOLLANCZ, D.Litt. Shekel Hakodesh. By H. HIRSCHFELD 250

MAURICE BLOOMFIELD. The Life and Stories of the Jaina Savior Pārçvanātha. By R. S. . . . 252

R. NARASIMHACHAR. The Kesava Temple at Belur. By R. S. 252

The Kalpa-sūtra of Bhadrabāhu, with the Commentary Subōdhikā of Vinayavijaya Ganī. By L. D. B. . 254

H. N. KILIAAN. Javaansche Spraakkunst. By C. O. BLAGDEN 255

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

PAGE

Paramattha dípaní or The Commentary of the Petavatthu. By M. H. B. 256

HAROLD E. PALMER. The Scientific Study and Teaching of Languages. By G. NOËL-ARMFIELD . . . 258

JADUNATH SARKAR, M.A. History of Aurangzib. Vols. III and IV. By W. F. 260

H. A. WALTER. The Aḥmadīya Movement. By J. N. FARQUHAR 262

Report of the Joint Session of the Royal Asiatic Society, Société Asiatique, American Oriental Society, and Scuola Orientale, Reale Università di Roma, September 3–6, 1919 123

NOTES OF THE QUARTER 265

ADDITIONS TO THE LIBRARY 163, 267

TRANSLITERATION OF THE SANSKRIT, ARABIC, AND ALLIED ALPHABETS.

TITLE-PAGE AND CONTENTS FOR THE FIRST HALF-YEAR.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

RULES RELATING TO MEMBERSHIP AND SUBSCRIPTIONS

4. Any person desirous of becoming an Ordinary Member must be nominated by one Member and seconded by another, of whom one must act on a personal knowledge that the candidate is likely to be a suitable and useful Member; and the nominating Member shall address the Secretary in writing and give the candidate's name, address, and occupation or status, and shall state to which of the aforesaid classes the candidate desires to be admitted.

17. The annual subscriptions of Ordinary Members shall be as follows:—

	£	s.	d.
Resident Members . . .	3	3	0
Non-resident Members . .	1	10	0

19. Ordinary Members may compound for their subscriptions at the following rates:—

In lieu of all future annual subscriptions, both as Resident and as Non-resident Members .	45 guineas.
In lieu of all future annual subscriptions as Non-resident .	22½ ,,

23. The first payment of subscription is due on election, but if a Member be elected in November or December of any year, the first annual subscription paid by him shall cover the year beginning on the 1st January next after his election.

24. Annual subscriptions shall be due on the first day of January of each year.

Every member of the Society whose subscription is paid is entitled to receive the quarterly Journal post free.

[P.T.O.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Those desirous of joining the Society are requested to fill in this form and to forward it to the address of "The Secretary, Royal Asiatic Society, 74 Grosvenor Street, London, W."

ROYAL ASIATIC SOCIETY

CERTIFICATE OF RECOMMENDATION

.....

.....

.....

being desirous of becoming a Member of the ROYAL ASIATIC SOCIETY, *we, whose names are hereunto subscribed, do hereby recommend to the Society as a Candidate.*

Proposer .....

Seconder .....

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

TO BE PUBLISHED IMMEDIATELY.

ASIATIC SOCIETY MONOGRAPHS.

Vol. XVII.

LALLĀ-VĀKYĀNI

OR

The Wise Sayings of Lal Dĕd

a mystic poetess of Ancient Kashmīr.

Edited with Translation, Notes, and a Vocabulary

BY

Sir GEORGE GRIERSON, K.C.I.E., Ph.D., D.Litt., M.R.A.S.

AND

LIONEL D. BARNETT, Litt.D., M.R.A.S.

The collection of songs edited in the present volume possesses a two-fold interest. Composed so long ago as the fourteenth century A.D., it claims the attention not only of the philologist as the oldest known specimen of the Kāshmīrī language, but also, and still more, that of the student of religions.

In ancient times the religious system based on Śaiva-Yōga was the object of much study amongst the learned men of Kashmīr. Lallā, or Lal Dĕd, the authoress of the following verses, was a wandering ascetic and a devoted follower of this cult. The importance of her songs consists in the fact that they are not a systematic exposé of Śaivism on the lines laid down by the theologians who preceded her, but illustrate the religion on its popular side. What we have here is not a mere book-religion as evolved in the minds of great thinkers and idealists, but a picture of the actual hopes and fears of the common folk that nominally followed the teaching of these wise men whom they had accepted as their guides. The book, in short, gives an account, often in vivid and picturesque language, of the actual working out in practice of a religion previously worked out in theory. As such it is a unique contribution to the body of evidence that must necessarily form the basis of a future history of one of the most important religious systems of India.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ROYAL ASIATIC SOCIETY

OF

GREAT BRITAIN AND IRELAND

74 Grosvenor Street, W. 1

SPECIAL NOTICE

THE ROYAL ASIATIC SOCIETY publishes Quarterly an *Illustrated Journal*, containing Original Articles on the Languages, the Archæology, the History, the Beliefs, or the Customs of the East.

A Special Article in the Journal gives each Quarter an account, as complete as possible up to date, of all scholarly work being done throughout the world in these branches of inquiry.

The Annual Subscription to the Society is THREE GUINEAS a Year for Resident, and THIRTY SHILLINGS a Year for Non-Resident, Members.

Each Member who has paid his Subscription for the current year receives the Journal post free, has the use of the Library at the Society's rooms, and admission to the meetings of the Society. Three-guinea subscribers may also borrow books.

Libraries and Non-Members may obtain the Journal post free by a Subscription of Thirty Shillings a year if paid in advance direct to the Secretary. The Price of each Part separately is Twelve Shillings

---

STEPHEN AUSTIN & SONS, LTD., PRINTERS, HERTFORD

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

1920

JOURNTS.

.f III. May, 1920.

PAGE

el Trades during the War. By M. S. J.B.E., Statistical Officer, National Federation of Iron and Steel Manufacturers ..... 351—391

Discussion on Mr. Birkett's Paper ..... 391—400

The Fertility of Various Social Classes in England and Wales from the Middle of the Nineteenth Century to 1911. By T. H. C. Stevenson, C.B.E., M.D. ..... 401—432

Discussion on Dr. Stevenson's Paper ..... 432—444

Miscellanea :—

Crop-Cycles in the United Kingdom and in France. By H. L. Moore, Columbia University, New York ..... 445—454

The Theory of Measurement of Changes in Cost of Living. By T. L. Bennet, of the Ministry of Finance, Cairo ..... 455—462

The Variations of Wholesale Prices in Italy during the Great War. By Professor Costantino Ottolenghi ... 463—477

Market Prices and Controlled Prices of Food in Moscow. By S. P. Turin ..... 478—479

Reviews of Books ..... 480—506

Current Notes ..... 507—520

Obituary 521, 522

Statistical and Economic Articles in Recent Periodicals ..... 523—527

List of Additions to the Library ..... 528—532

Notice with regard to binding of the *Journal* ii

List of Council and Officers, 1919–20 iii

List of Publications of the Society iv

List of Patrons and Presidents vi

Notices to Fellows ..... vii, x

Contents of recent issues of the *Journal* viii

Form of Bequest xi

Advertisements, &c. ..... ii, xii

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ROYAL STATI SIATIC SOCIETY

Founded 15th March, 183

LI

Patrons and Pre

OF

Patro

HIS ROYAL HIGHNESS THE PRINCE CONS
HIS MOST GRACIOUS MAJESTY KING EDWAR ND IRELAND
HIS MOST GRACIOUS MAJESTY KING GEORGE V.

Honorary Presidents.

H.R.H. ALBERT EDWARD PRINCE OF WALES, K.G. .....
H.R.H. GEORGE PRINCE OF WALES, K.G. .....

Presidents.

The Most Noble The Marquis of Lansdowne, K.G., F.R.S.	1834-36
Sir Charles Lemon, Bart., M.P., LL.D., F.R.S.	1836-38
The Rt. Hon. The Earl Fitzwilliam, F.R.S.	1838-40
The Rt. Hon. The Visct. Sandon, M.P. (afterwards Earl of Harrowby)	1840-42
The Most Noble The Marquis of Lansdowne, K.G., F.R.S.	1842-43
The Rt. Hon. The Visct. Ashley, M.P. (afterwards Earl of Shaftesbury)	1843-45
The Rt. Hon. The Lord Monteagle	1845-47
The Rt. Hon. The Earl Fitzwilliam, F.R.S.	1847-49
The Rt. Hon. The Earl of Harrowby, K.G., D.C.L.	1849-51
The Rt. Hon. The Lord Overstone	1851-53
The Rt. Hon. The Earl Fitzwilliam, K.G., F.R.S.	1853-55
The Rt. Hon. The Earl of Harrowby, K.G., D.C.L.	1855-57
The Rt. Hon. The Lord Stanley, M.P. (afterwards Earl of Derby)	1857-59
The Rt. Hon. The Lord John Russell, M.P., F.R.S. (afterwards Earl Russell)	1859-61
The Rt. Hon. Sir John S. Pakington, Bart., M.P., G.C.B. (afterwards Lord Hampton, G.C.B.)	1861-63
Colonel W. H. Sykes, M.P., D.C.L., F.R.S.	1863-65
The Rt. Hon. The Lord Houghton, D.C.L., F.R.S.	1865-67
The Rt. Hon. W. E. Gladstone, M.P., D.C.L.	1867-69
William Newmarch, F.R.S., Corr. Mem. Inst. of France	1869-71
William Farr, M.D., C.B., D.C.L., F.R.S.	1871-73
William A. Guy, M.B., F.R.S.	1873-75
James Heywood, M.A., F.R.S., F.G.S.	1875-77
George J. Shaw Lefevre, M.P. (now Lord Eversley)	1877-79
Thomas Brassey, M.P. (afterwards Lord Brassey)	1879-80
The Rt. Hon. Sir James Caird, K.C.B., F.R.S.	1880-82
Sir Robert Giffen, K.C.B., LL.D., F.R.S.	1882-84
Sir Rawson W. Rawson, K.C.M.G., C.B.	1884-86
The Rt. Hon. George J. Goschen, M.P., F.R.S. (afterwards Visct. Goschen)	1886-88
T. Graham Balfour, M.D., F.R.S.	1888-90
Frederic J. Mouat, M.D., LL.D., F.R.C.S.	1890-92
The Rt. Hon. Charles Booth	1892-94
The Rt. Hon. The Lord Farrer	1894-96
John Biddulph Martin, M.A.	1896-97
Sir Alfred Edmund Bateman, K.C.M.G.	1897
The Rt. Hon. Leonard H. Courtney, M.P. (afterwards Lord Courtney)	1897-99
The Rt. Hon. Sir Henry H. Fowler, G.C.S.I., M.P. (afterwards Viscount Wolverhampton)	1899-1900
The Rt. Hon. Lord Avebury, D.C.L., LL.D., F.R.S.	1900-02
Major Patrick George Craigie, C.B.	1902-04
Sir Francis Sharp Powell, Bart., M.P.	1904-05
The Rt. Hon. The Earl of Onslow, G.C.M.G.	1905-06
Sir Richard Biddulph Martin, Bart.	1906-07
The Rt. Hon. Sir Charles W. Dilke, Bart., M.P.	1907-09
Sir Jervoise Athelstane Baines, C.S.I.	1909-10
The Rt. Hon. Lord George Hamilton, G.C.S.I.	1910-12 and 1915-16
Professor F. Y. Edgeworth, M.A., F.B.A.	1912-14
The Rt. Hon. Lord Welby, G.C.B.	1914-15
Sir Bernard Mallet, K.C.B.	1916-18
The Rt. Hon. Herbert Samuel	1918-

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

JOUR

FELLOWS.

May, 1920.

...ions are due in advance, on the 1st of January in ...orm for authorising a Banker or Agent to pay the ...ion annually will be forwarded on application to the SECRETARY. When convenient, this mode of payment is recommended. Drafts should be made payable to the order of "The Royal Statistical Society," and crossed "*Drummond and Co.*"

IN order to be included in the Ballot at any particular Ordinary Meeting, the nomination papers of candidates for Fellowship should be lodged at the Office of the Society at least six days before the date of such Meeting. Nomination papers may be obtained on application to the SECRETARY.

FELLOWS wishing to receive special and separate notices of papers to be read before the Society at the Ordinary Meetings should communicate with the SECRETARY.

THE Ordinary Meetings of the Society are held at 5.15 p.m., at **The Society's Rooms, 9, Adelphi Terrace, Strand, W.C. 2**, unless otherwise announced.

Particulars as to Papers to be read, and the time and place of meeting, will be found advertised in "The Times" on the Saturday preceding the date of each meeting. The attention of Fellows is especially directed to these announcements.

Note.—During the present Session the *Journal* will again be published in January, March, May and July, 1920, at the price of 7*s.* 6*d.* each part.

THE Library and the Reading Room are open daily during the Session for the use of Fellows from 10 a.m. to 5 p.m., except on Saturdays, when they are closed at 2 p.m., and on the dates of Ordinary Meetings, when they are closed at 4 p.m.

It is requested that any change of address may be notified promptly to the SECRETARY.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CONTENTS OF R SIATIC SOCIETY

Journal of the Roy OF

ND IRELAND

Vol. LXXXII, Part II—

The Taxation of the Various Classes of the People: Address of the Right Hon. HERBERT SAMUEL, 1918–19. Delivered to the Royal Statistical Society, 1919. With Proceedings .....

Problems of Industrial Organisation. By MAJOR GREENWOOD, C. R.A.M.C., T.F. (Lister Institute and Ministry of Munitions). With Discussion. ..... 186—221

Psychical Research and Statistical Method. By Professor F. Y. EDGEWORTH, M.A., F.B.A. ..... 222—228

Vol. LXXXII, Part III—*May*, 1919.

A Survey of the Development of the Serbian (Southern Slav) Nation. An Economic and Statistical Study. By G. DIOURITCH, Assistant Professor of Political Economy, Belgrade University. With Discussion ..... 293—342

The Measurement of Changes in the Cost of Living. By A. L. BOWLEY, Sc.D. With Discussion ..... 343—372

Crop-Cycles in the United Kingdom and in the United States. By HENRY L. MOORE, Columbia University, New York ..... 373—389

Vol. LXXXII, Part IV—*July*, 1919.

The Wealth and Income of the Chief Powers. By J. C. STAMP, C.B.E., D.Sc. With Discussion ..... 441—507

The Course of Women's Wages. By DOROTHEA M. BARTON, M.A. With Discussion ..... 508—553

Annual Report of the Council, &c. With Proceedings at the Eighty-Fifth Annual General Meeting ..... 554—567

Vol. LXXXIII, Part I—*January*, 1920.

Fifty Years of Canadian Progress as Illustrated by Official Statistics. 1867 to 1917. By ERNEST H. GODFREY, Dominion Bureau of Statistics, Ottawa. With Discussion ..... 1— 85

Some Changes in the Distribution of the National Income During the War. By J. E. ALLEN. With Discussion ..... 86—126

Expansions Useful in the Theory of Frequency Distributions. By ALF. GULDBERG ..... 127—130

Committee on Official Statistics ..... 131—133

Report on the Census ..... 134—139

Vol. LXXXIII, Part II—*March*, 1920.

The Organisation of Imperial Statistics. By G. H. KNIBBS. With Discussion ..... 201—224

The Food Supply of Germany During the War. By ERNEST H. STARLING, C.M.G., M.D., F.R.S. With Discussion ..... 225—254

Miscellanea—

An Inquiry into the Nature of Frequency Distributions representative of Multiple Happenings, with particular Reference to the Occurrence of Multiple Attacks of Disease or of Repeated Accidents. By M. GREENWOOD and G. UDNY YULE ..... 255—279

Density and Death-Rate: Farr's Law. By JOHN BROWNLEE, M.D., D.Sc. ..... 280—283

The Paper Pound of 1797–1821 ..... 284—289

Each volume of the *Journal* is now issued in four parts. The price of each part is 7*s.* 6*d.* to the general public, and the subscription, including postage, £1 11*s.* per annum.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

JOURNAL

OF THE

ROYAL

STATISTICAL SOCIETY.

Founded 1834.

Incorporated by Royal Charter 1887.

VOL. LXXXIII.—PART III.

MAY, 1920.

LONDON:
THE ROYAL STATISTICAL SOCIETY.
9, ADELPHI TERRACE STRAND, W.C. 2.

1920.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

NOTICE.

THE Council of the Royal Statistical Society wish it to be understood that the Society is not responsible for the statements or opinions expressed in the Papers read before the Society or published in its *Journal*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Chief Clerk will again be glad to hear from Fellows and others having back numbers of the Journal to dispose of, as there is still a shortage of the following parts :—

1838–9.	Parts 1, 6.	May and October, 1838.
1839–40.	,, 4.	July, 1839.
1866.	,, 4.	December.
1869.	,, 1, 2.	March, June.
1870.	,, 4.	December.
1871.	All parts.	
1872.	,, ,,	
1873.	Part 1.	March.
1876.	,, 3.	September.
1877.	,, 2.	June.
1899.	,, 1.	March.
1900.	,, 1	March.
1903.	,, 3	September
1906.	,, 1.	March.
1907.	,, 1.	March.
1910–11.	,, 1.	December, 1910.
1911–12.	,, 1.	December, 1911.
1913–14.	,, 1.	December, 1914.
1919.	,, 4.	July, 1919.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Vol. LXXXIII.] [Part III.

JOURNAL

OF THE ROYAL STATISTICAL SOCIETY.

MAY, 1920.

The Iron and Steel Trades during the War.

By M. S. Birkett, O.B.E.,

Statistical Officer, National Federation of Iron and Steel Manufacturers.

[Read before the Royal Statistical Society, Tuesday, March 16, 1920, Sir A. E. Bateman, K.C.M.G., in the Chair.]

I. Introduction.

This Paper is an attempt to bring together some of the materials for one of the economic chapters in the history of the War. It lays no claim to original research, nor does it embody any attempt to apply the refinements of statistical method to the data employed. Its only claim to attention lies in the fact that any survey of the industrial changes that occurred during the war must of necessity take account of the very notable changes in the iron and steel industry. As the basis of all programmes for munitions, the iron and steel industry naturally underwent modifications as profound as, if not more profound than, those of any other industry in the country. Moreover, the results of the war altered very considerably the balance of power between the steel-producing countries, and materially affected the position of this country, as compared with America on the one hand and France and Germany on the other.

It had been hoped that Mr. Layton would have been responsible for this Paper, but, owing to the important new duties which he has recently undertaken, this has proved impossible. The Paper has, however, been discussed with him, and I have his concurrence in the use of any official figures that the Paper contains.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The sources of my information are acknowledged in the course of the Paper, but there is one name which I must mention here: that of my colleague, Mrs. Frances Wood, with whom I had the privilege of working for nearly five years. I had hoped, when the idea of the Paper was first mooted, to have had her collaboration; we discussed the plan of the work together and she left some valuable notes and memoranda upon it. I cannot let this occasion pass without an expression of my appreciation of the loss sustained by the Society in the premature death of the first lady member of its Executive Committee.

II. THE UNITED KINGDOM.

(*a*) *The position before the War.*—It is well known that before the war Great Britain had been ousted from the premier position in the production of iron and steel, and occupied only the third place, the first and second places being occupied, respectively, by the United States and Germany. From having contributed 52 per cent. of the world's production of pig iron in the quinquennium 1871–75, as against the United States' 18 per cent. and Germany's 15 per cent., her proportion had fallen to 21.8 per cent. in the quinquennium 1901–05, compared with the United States' 45.5 per cent. and Germany's 23.2 per cent. By 1913 Great Britain contributed only 14 per cent. of the total to 40 per cent. by the United States and 25 per cent. by Germany. Nearly half the production of pig iron was made from imported ores, which was rendered possible by the existence near the sea-ports of large coalfields. Although, in certain lines, we had lost our former supremacy (for instance, our share of the total world's export trade in rails dropped from 72 per cent. in 1884 to 32 per cent. in 1913), we were still nearly the largest exporters of iron and steel in the world, the 1913 figures being for Great Britain 5,049,000 tons, Germany 5,664,000 tons and the United States 2,746,000 tons. Our tinplate trade, although very hard hit by the McKinley tariff of 1891, which caused our exports of tinplates to fall gradually from 448,000 tons in 1891 to 251,000 tons in 1898, managed to weather the storm, and subsequently made a remarkable recovery, so that by 1913 the exports amounted to 494,000 tons, and, in addition, a huge export trade in galvanized sheets had been built up, amounting in 1913 to 762,000 tons.

As in most other industries, so in the iron and steel industry the year 1913 was a "boom" year. The output of pig iron attained the record figure of 10,260,000 tons—a figure never again reached—while the production of steel ingots and castings amounted to 7,664,000, a figure higher by 867,000 tons

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

than that of the year before, which was the previous best, though one which has since been considerably exceeded as the result of the policy of the Steel Production Department of the Ministry of Munitions. Prices, too, were good; to quote only two examples, the ascertained price of Cleveland pig iron averaged 3*l.* per ton, the highest figure recorded since 1900 (when it was 3*l.* 8*s.* 1*d.*), and steel plates 7*l.* 2*s.* 7*d.*, again the highest since 1900, when it was 7*l.* 19*s.* Exports of iron and steel and manufactures thereof reached the record figure of 5,049,000 tons.

There was evidence towards the end of the year, however, that the period of prosperity was passing, and giving place to a period of comparative depression. Forecasting the position for 1914, *The Iron and Coal Trades Review* said: "A good business at lower "levels will probably be found an approximate description of the "course of trade in the ensuing year." This prediction was fairly accurate, and early in the year pig iron masters were adopting the precaution of restricting output. Home demand was lower, German competition began to be more severely felt, and prices fell; the ascertained price of Cleveland No. 3 fell in 1914 to 51*s.* 2*d.* and the price of steel plates to 6*l.* 7*s.* 10*d.*

(*b*) *The outbreak of War.*—At the outbreak of war this general downward tendency was for a time accentuated, for although German competition had been eliminated the large export trade was severely handicapped and the home trade uncertain. No one realised that the war was likely to last long, and certainly steel makers did not realize how much the result would ultimately depend upon the steel resources of the country. In the autumn, Government and Allied orders began to come forward in large quantities, a big home trade soon developed, and the efficient work of our navy enabled foreign trade slowly to improve. The scarcity of tonnage which was felt towards the end of the year led to big orders for shipbuilding material being placed so that at the close of the year not only were the works extremely busy, but they were beginning to feel the shortage of labour due to the enlistment of so many men for the Army, and representations were made to the Government that the supply of munitions would suffer if further recruiting from steel works took place.

The most difficult problem was shell steel. Before the war six firms only had experience of this kind of steel, and the specifications were rather severe. The steel department early set about standardising the various sections for each calibre of shell and fixing a standard weight for each mark. As the demand for shells, and consequently for steel, increased, the specifications had to be made

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

less strict. Makers who had been accustomed to make shell steel prior to the war placed their experience at the disposal of other makers, and the number of firms making shell steel rose from six to sixty, and the production of shell steel increased as shown in the following table :—

	Average weekly. Tons.		Average weekly. Tons.
1915, 4th quarter	20,300	1916, 4th quarter	35,400
1916, 1st quarter	28,500	1917, 1st quarter	35,600
2nd quarter	34,500	2nd quarter	36,300
3rd quarter	34,000		

At one time nearly a third of the ingot output of the country was going into shell steel, but even this was insufficient for the huge shell programme, and shell steel had to be imported from America and Canada.

After the second quarter of 1917 the increasing demand for ships and other munitions made it necessary to reduce the output of shell steel, and to rely, to a greater extent, on the United States and on the stocks of finished shell, forgings, and shell steel, which had by this time been accumulated. Incidentally, Dr. Hatch remarks that the insistence on a specially high quality of steel for the manufacture of shells has led to a great improvement in the quality of the steel manufactured throughout the country. The proportion of rejections in American shell steel was much higher than in that of the steel makers of this country.

With such great quantities of steel going into shells, steel for other purposes was deficient, and it became urgently necessary to conserve and afterwards to increase our steel resources.

This was done in the following ways :—

(1) *By restricting exports.*

Although certain restrictions had previously been placed on the export of steel and pig iron, these restrictions were made more severe on April 29, 1916, by placing steel and iron on the list of prohibited exports. Thus the home output of steel was secured to the Empire and her Allies, and all neutral markets practically closed except where the Government, through the Ministry of Munitions, granted permits to export with a view to adjusting the balance of trade ; for example, a certain quantity of rails were allowed to be exported to South America. The effect of this restriction is shown in the following table, where it will be seen that the exports of iron and steel and manufactures thereof dropped from 5,049,000 tons in 1913 to 1,618,000 in 1918.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Exports of iron and steel and manufactures thereof, 1913–18.

	Pig iron (including spiegel, ferro, &c.).	Other iron and steel.	Total.
	Tons.	Tons.	Tons.
1913	1,125,000	3,924,000	5,049,000
1914	781,000	3,191,000	3,972,000
1915	611,000	2,637,000	3,248,000
1916	917,000	2,439,000	3,356,000
1917	734,000	1,611,000	2,345,000
1918	483,000	1,135,000	1,618,000

Over 70 per cent. of such exports as remained went to the Allies.

(2) *Restricted production of non steel-making iron.*

Of the total production of pig iron in 1913, 3,800,000 tons, or more than a third of the whole, was not converted into steel, but used in forges and foundries. During the war the production of forge and foundry iron was decreased in order that more pig iron might be available for steel making. The drop in the production of forge and foundry iron was as follows :—

		Tons.			Tons.
1913	....	3,801,500	1916	....	2,423,600
1914	....	3,369,500	1917	....	2,378,900
1915	....	2,701,200	1918	....	2,301,800

(3) *Imports of finished munitions and ferrous materials.*

The following table shows the extent to which the home resources in iron and steel required to be supplemented by imports from the United States, Canada and elsewhere.

Imports of finished munitions and ferrous material from U.S.A., Canada and elsewhere.

	U.S.A.		Canada.		Other countries.		Total.	
	Finished munitions.	Ferrous material.	Finished munitions.	Ferrous material	Finished munitions.	Ferrous material	Finished munitions.	Ferrous material.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1915	54,500	651,400	43,600	62,200	500	245,600	98,600	959,200
1916	547,500	668,400	406,500	30,700	30,700	195,700	984,700	894,800
1917	348,300	1,427,900	508,300	143,200	37,200	116,200	893,800	1,687,300
1918	75,300	860,500	467,000	52,900	13,100	69,400	555,400	982,800

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(4) *Labour in iron and steel works was protected from military service.*

This will be dealt with more fully under the section dealing with labour.

(5) *The increased use of scrap.*

The shortage of pig iron made it necessary that scrap should be used to a greater extent than hitherto, and it was suggested to the steel makers that 50 per cent. of their charge might be of scrap iron or steel. No precise information is available as to the proportions of scrap used before the war, but it is generally considered that, on the average, it did not exceed 30 per cent. of the charge, and was often much lower. To ensure that scrap should be used to a greater extent, steel makers were requested to render monthly statements showing the proportion of scrap used during the month. These returns were critically examined, and where the proportion was low the firm was requested to use a higher proportion. When the first returns were received the average proportion of scrap used was shown to be about 34 per cent. This proportion was gradually increased until a per centage of 47 per cent. was reached, an equivalent saving of 750,000 tons of pig iron for the same ingot output. Such a high proportion was rendered possible by the accumulations of steel turnings from the shell shops; in fact, steel makers were at first unable to absorb such large quantities as were available, and pressure was exerted on pig-iron manufacturers to utilize them in the blast furnaces. When the accumulations had been exhausted the current scrap resulting from shell turnings was insufficient, and the assistance of the Salvage Department of the Ministry was invoked to obtain the scrap material that lay waste throughout the country. The demand for scrap became so acute and prices rose so considerably that it was necessary to bring the price of scrap under control.

(6) *Increase in capacity for pig iron and steel production.*

(*a*) *Pig iron.*—Dr. Hatch's book, *The Iron and Steel Industry*, 1914–18, deals very fully with this subject, and the following account is derived mainly from that source. At the outbreak of war considerable stocks of pig iron were available which had accumulated owing to the fall in steel production due to importation of German and Belgian steel. These accumulations were sufficient to meet the increased steel production until about the middle of 1916, when it became apparent that the stocks were dangerously low, and, in order to get the best results a system of allocation had to be resorted to. This took place in July, 1916, for hematite, and in May, 1917, for basic iron, from which date until the end of control all steel-making iron was strictly allocated. However carefully allocated,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

however, the pig iron production was insufficient for the increasing steel capacity of the country, and in July, 1916, the first programme of blast furnace extensions was laid down. It arranged for the repair, relining, or additional plant to be undertaken at 41 furnaces then out of blast and for the building of 10 new furnaces; the estimated capacity of the 51 furnaces was about 38,000 tons weekly, or rather less than 2 million tons a year. This programme was almost equally divided between hematite and basic pig iron. By September 16 of these furnaces were already in blast and producing at the rate of 450,000 tons per annum, nearly all of which was hematite, and 22 additional blast furnaces were contemplated, of which 10 were new. The 57 furnaces still to come into operation were estimated to produce about 2¼ million tons per annum, of which 56 per cent. was hematite. By March 33 of the furnaces arranged for had come into blast and were producing at the rate of 900,000 tons per annum, three-quarters of which was hematite, and the number of furnaces still to come into operation numbered 56, estimated to produce about 2,625,000 tons per annum, of which 52 per cent. was hematite. Thus, up to this date, a total number of 89 furnaces had been arranged for, with an estimated capacity of about 3½ million tons per annum. The fact that, in spite of all these efforts, the output of pig iron during the war never attained the record output which was attained in 1913 was largely due to difficulties of tonnage and labour. The tonnage difficulty led to the abandonment of part of the hematite programme, and necessitated concentrating on the basic side of the programme, with its consequent dislocation of arrangements at many blast furnaces and steel works and its greater demand upon labour, transport, fuel and other materials. To increase the production of basic iron it was necessary to increase the production of home phosphoric ores.

The home supply of iron ore is practically inexhaustible; the reason for the industry depending to so large an extent on foreign ores being, of course, that except for the hematite ores of Cumberland and Westmoreland, where the iron content varies between 40 and 57 per cent. (being 50 per cent. on the average), the bulk of the home ore is phosphoric, with an average iron content of only 28 per cent. This obviously entails a greater number of blast furnaces in order to produce the same quantity of pig iron, and consequently more fuel, limestone, refractories, &c., involving, in turn, additional skilled labour. Moreover, it meant an extensive re-arrangement of plant and the relining with basic material of the siliceous linings of many steel furnaces hitherto used for the acid process.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

We have seen that, up to March, 1917, 89 furnaces had been arranged for, of which 33 had already come into blast, but of the production of these furnaces three-quarters was to be hematite. To increase the production of basic iron from home ores, a "Home "Ore Supply Committee" was set up early in March and a special section of the Ministry of Munitions formed for the purpose of (*a*) increasing, as far as possible, the production of basic pig iron to compensate for, and if possible to exceed, the extent to which the hematite production would be deficient owing to reduced imports of Spanish ore, and (*b*) to arrange for the conversion of sufficient acid steel furnaces to basic to utilize the basic pig iron.

On investigation 36 furnaces were found sufficiently favourably situated as regards transport, &c., to make it worth while to instal the necessary plant and machinery to enable them to produce basic pig iron. These furnaces had a weekly capacity for about 18,000 tons. There were, in addition, 16 new furnaces in course of construction which had been previously sanctioned, and which were expected to reach the maximum output of 14,000 tons per week.

When the Home Ore Supply Committee was formed, the weekly output of basic pig iron was slightly less than 48,000 tons. The maximum production was reached in the week ending May 5, 1918, when 65,530 tons were produced. Of the increase, about 10,000 tons was due to the operation of the new blast furnaces, and the remainder to old furnaces brought into blast.

The failure to increase by as much as 32,000 tons weekly, which was the amount aimed at, was due to difficulties of obtaining sufficient labour due to "combing out," &c., necessitated by the military situation.

The following table shows the production of pig iron throughout the war. It shows that the production of basic pig iron increased

Output of pig iron, 1913–18.

	Hematite.	Basic.	Forge and foundry.	Alloys.	Total.
1913	3,604,823	2,529,800	3,801,547	324,145	10,260,315
Proportion per cent.	35	25	37	3	100
1914	3,225,403	2,002,500	3,369,516	326,354	8,923,773
Proportion per cent.	36	22	38	4	100
1915	3,564,276	2,272,684	2,701,215	255,484	8,793,659
Proportion per cent.	40	26	31	3	100
1916	4,042,014	2,290,549	2,423,575	291,845	9,047,983
Proportion per cent.	45	25	27	3	100
1917	3,921,927	2,722,791	2,378,870	298,190	9,321,778
Proportion per cent.	42	29	26	3	100
1918	3,556,748	2,986,827	2,301,802	240,975	9,086,352
Proportion per cent.	39	33	25	3	100

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

from 2 million tons in 1914 to little less than 3 million tons in 1918, an increase of nearly 50 per cent., and that the proportion of basic to total pig iron produced, which had been 22 per cent. in 1914, was 33 per cent. in 1918. The increase in basic pig iron was wholly at the expense of forge and foundry, which dropped from 3,369,000 tons in 1914 to 2,301,000 tons in 1918. The maximum weekly output attained during the war was 191,000 tons in the week ending May 5, 1918, when, as previously stated, the basic output contributed 65,530 tons.

(*b*) *Steel works extensions.*—When it was clear that however economical we might be in the use of steel, the production was quite inadequate to meet the demands, extensions to steel works on a big scale were planned. By the end of March, 1916, arrangements were made for enlarging steel works to provide an extra 2 million tons of ingots per anuum. When Sir John Hunter became Director of Steel Production in August, 1916, he sanctioned a further programme for 1 million tons of hematite steel and 2 million tons of basic steel, bringing the total increase to be provided for up to 5 million tons per annum. As the output attained in 1913 had been 7,600,000 tons, the new extensions arranged for would have brought the total capacity of the country up to over 12,000,000 tons. It may be remembered that the Departmental Committee of the Board of Trade which sat in 1916 recommended that the steel capacity of the country should be increased up to 15,000,000 ingot tons. In planning the extensions every care was taken to ensure that a balance existed between furnace capacity and rolling-mill capacity, and, in many cases, capacity for the latter was considerably extended—*e.g.*, to meet the increased demand for plates for shipbuilding, tanks, &c. The following table, taken from Dr. Hatch's book, shows the steel furnaces arranged for in 1916 to 1918 :—

District.	1916.		1917 and 1918.		Total 1916–18.		
	Basic.	Acid.	Basic.	Acid.	Basic.	Acid.	Total.
Scotland	31	8	—	—	31	8	39
North-East Coast	14	1	7	2	21	3	24
Lincolnshire	6	—	3	—	9	—	9
Midlands	24	8	14	2	38	10	48
South Wales	7	5	7	—	14	5	19
Cumberland and Westmoreland	10	8	7	2	17	10	27
Total	92	30	38	6	130	36	166

To enable the policy to be carried out, it was essential that the necessary supplies of ore, pig-iron, ferro-manganese, ferro-silicon,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

coal and coke, limestone, fire bricks and other refractories should be forthcoming at the right time, and special sections of the steel department were set up to deal with one or more of these subjects. In the case of shipping, inland transport and labour not under the control of the Ministry of Munitions the Government Departments concerned were kept informed of the progress made. The activities of the Home Ore Supply Committee have already been referred to in connection with pig iron production; in the case of steel, production of basic quality was increased from 71,500 tons weekly when the Committee was formed to a maximum of 104,800 in the week ending April 27, 1918.

The output of steel ingots and castings throughout the war period is shown in the following table. Production was at its maximum in the second quarter of 1918, when it was consistently at a rate of over 10 million tons per annum, the maximum attained in any one week amounted to 215,800 tons in the week ending March 9. Of the increase of 1,875,000 tons between 1913 and 1918, 1,744,000 tons was due to the increased output of basic steel. The proportions of acid and basic steel, which had been 63 per cent. and 37 per cent. respectively in 1913, became in 1918 52 per cent. and 48 per cent. respectively.

Output of steel, 1913–18.

	Acid.	Proportion per cent.	Basic.	Proportion per cent.	Total.
1913 ...	4,860,154	63	2,803,722	37	7,663,876
1914	4,477,920	57	3,357,193	43	7,835,113
1915	5,111,231	60	3,438,784	40	8.550,015
1916	5,468,292	61	3,523,437	39	8,991,729
1917	5,771,742	59	3,944,802	41	9,716,544
1918	4,992,106	52	4,547,333	48	9,539,439

(7) *Allocation of steel.*

The steel allocation system had two sides, one of which is fairly familiar to the public, viz.: the allocation of supply by means of priority certificates, and the other, which is not so well known, the allocation of production to the mills best suited to produce the plates, sheets, sections, &c., required. The Priority regulations aimed at restricting the supply of steel to those industries which were essential for the conduct of the war, and provided that no order for steel should be accepted by manufacturers unless it was required in connection with work of immediate importance for the prosecution of the war, and proved to be such by bearing a permit of the Admiralty, War Office, Ministry of Munitions, or Priority Department.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

In order to secure the maximum output from all mills, and that, as far as possible, the output should be obtained from the mills best suited for the particular product, the country was divided into 6 steel-producing areas, viz., Scotland, Birmingham and district, Sheffield and district, Lancashire and Cheshire, North East Coast, and South Wales, in each of which a committee of steel manufacturers was appointed, together with a Ministry of Munitions representative known as the Steel Superintendent, who had an expert knowledge of the capacities of all the works in the district. At Headquarters there was a Central Committee, consisting of the Controller of Iron and Steel Production as Chairman, and representatives from the Ministry of Munitions, Admiralty, and delegates appointed by the Area Committees. The Steel Department of the Ministry decided the tonnage and classifications to be placed in the different areas, and the Steel Superintendent of each district drew up a programme as to where orders for the steel required could best be placed. This he submitted to his Area Committee for their advice and assistance.

The basis of the steel budget is tonnage, since, as we have already said, nearly half of the pig iron produced in this country depends on imported ore. The amount of tonnage that could be allotted to the import of foreign iron ore having been fixed by the Shipping Tonnage Priority Committee of the War Cabinet (and this was subject to constant fluctuations), the Controller of Iron and Steel Production proceeded to draw up his programme. He first estimated the probable output of the home ores, and then converted both home and imported ores into terms of pig iron; deducting such of the pig iron as would be required for the foundries and forges, the remaining pig iron would be converted into terms of steel ingots. The chart on page 362 is a copy of one actually prepared by Sir William Jones in the autumn of 1918, which budgetted for an output in 1919 of 10,115,700 tons of steel ingots on the assumption of an import of 6,000,000 tons of Spanish ore, 300,000 tons of Scandinavian and 500,000 tons of basic pig iron from America.

The tonnage of finished steel products (plates, rails, angles, &c.) obtainable from a given output of ingots was taken at 75 per cent., and when this had been ascertained the "Steel Allocation Committee," consisting of the Controller of Steel Production (Chairman) and representatives from the Admiralty, War Office and chief consuming departments of the Ministry of Munitions, met and allocated the prospective steel output among them; the amount of steel that remained for the ordinary trade of the country, the maintenance of plant, &c., after the war departments had been, not satisfied, but rationed, was extremely small. Under the system

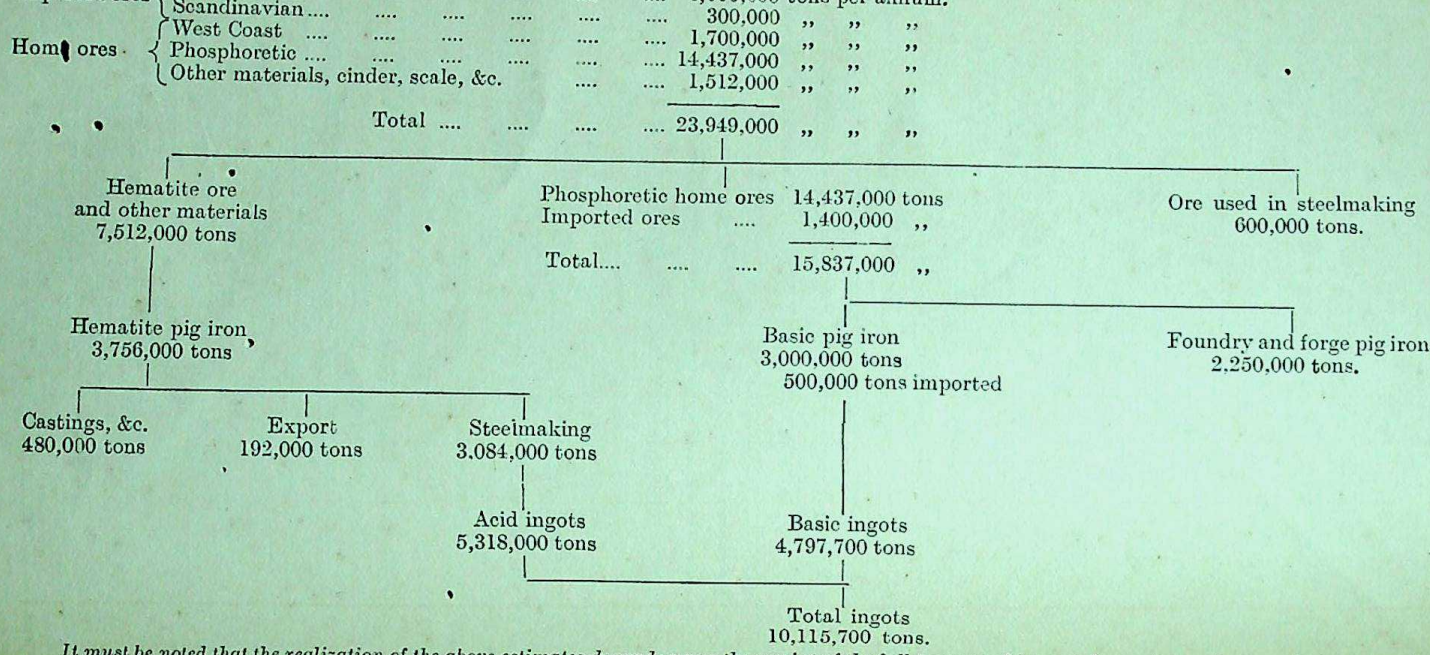
CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Estimated output of pig iron and steel ingots for 1919.

Based on importation of 6,000,000 tons of Spanish and Mediterranean ores, and 300,000 tons of Scandinavian ores.

Imported ores	Spanish and Mediterranean	6,000,000 tons per annum.
	Scandinavian	300,000 ,, ,, ,,
Home ores	West Coast	1,700,000 ,, ,, ,,
	Phosphoretic	14,437,000 ,, ,, ,,
	Other materials, cinder, scale, &c.	1,512,000 ,, ,, ,,
	Total	23,949,000 ,, ,, ,,



It must be noted that the realization of the above estimates depends upon the receipt of the full tonnage of imported ore shown above, and also upon the provision of sufficient labour and fuel being provided as and when required to enable the whole of the ore to be smelted and the resulting pig iron converted into steel.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Despatches of steel from steel makers during 1918.

Weekly average in tons.

	Allocation for first six months of 1918 as arranged in January, 1918.	1918: Despatches during					
		January.	February.	March.	April.	May.	June.
Admiralty	37,076	27,057	36,170	37,120	35,519	35,849	33,241
War Office	10,016	11,203	11,401	11,713	10,537	8,943	10,854
Ministry of Munitions—							
Explosives	556	356	418	422	424	509	507
Guns, large	2.760	1,856	2,175	1,814	2,324	2.662	2,458
Machine guns and S.A.	900	428	425	591	565	629	719
Trench warfare	924	961	1,029	807	811	918	621
Mechanical warfare	3,480	1,030	1,461	1,732	2,104	2,982	3,312
Mechanical transport	1,376	1,285	1,235	1,566	1,362	1,534	1,537
Aircraft	3,536	2,461	2,969	3,285	3,421	3,718	4,113
Steelworks extension	1,428	2,125	2,504	2,606	2,283	2,007	1,955
Factory construction	—	1,040	1,236	1,430	1,080	1,198	1,335
Machine tools and cranes	1,176	962	1,208	1,333	1,297	1,312	1,247
Railways, U.K.	4,536	2,913	4,613	6,142	6,954	6,975	5,826
,, overseas	4,924	4,348	4,973	3,131	3,313	4,489	4,788
Electrical power supply	676	455	746	869	916	847	807
Other	—	3,341	3,296	3,071	2,438	2,223	2,909
Total M. of M.	26,272	23,561	28,288	28,799	29,292	32,003	32,134

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Despatches of steel from steel makers during 1918—(*contd.*)

Weekly average in tons.

	Allocation for first six months of 1918 as arranged in January, 1918.	1918: Despatches during					
		January.	February.	March.	April.	May.	June.
India Office	492	463	446	556	608	419	505
Other Government Departments and Priority	19,804	2,379	2,317	2,487	2,337	3,023	3,523
		18,130	13,701	15,122	15,292	15,972	16,448
Allies—							
France	6,940	6,266	6,147	6,806	6,317	6,461	7,154
Italy	1,092	1,240	1,422	1,036	661	865	865
Other	—	620	1,010	1,415	963	1,625	1,868
Shell steel—							
Great Britain—							
Land service	21,448	15,720	18,614	18,801	16,248	15,572	18,906
Admiralty		1,427	1,871	1,767	1,490	1,403	1,846
Mild steel		4,052	3,701	3,310	3,282	3,057	2,788
France	900	3,718	1,905	618	236	260	173
Italy	3,360	653	1,724	1,791	2,095	2,721	2,363
Belgium	—	214	—	438	—	—	—
Other Allies	—	13	—	—	—	—	—
Tubes*	7,672	1,026	1,362	1,459	1,178	1,440	1,674
Wire rods*	4,808	3,607	4,389	4,658	4,827	5,200	5,586
Grand total	139,880	121,349	134,468	137,896	130,882	134,813	139,928

* Information as to the distribution of tubes and wire is incomplete.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

whereby all orders for steel had to be accompanied by a permit and priority certificate, it was easy to see how much steel was despatched for the use of each of the consuming departments. Steelmakers were required to render a weekly return to the C.I.S.P. showing, by kinds of steel, the tonnage despatched during the week for work for each of the Departments who had power to make direct contracts, or under permits of the Priority Department; these returns were tabulated so that the Steel Department was able to see that the allocations were more or less adhered to. It may be of interest to show the form of table which was regularly included in the reports to the Minister giving the despatches of steel compared with allocations. This table, which relates to the first six months of 1918, was also prepared under the direction of Sir William Jones.

It will be seen that the Admiralty was allocated 37,000 tons of steel weekly in the first half of 1918, but only took that amount in March; that 3,500 tons weekly throughout the period having been allocated to Tanks, that department was only in a position to take that amount by June. To explain the reasons for the differences between allocations and despatches would involve a study of programmes of the respective departments and would occupy volumes. Moreover, as circumstances changed allocations changed. The first column in the tables on pages 363 and 364 was the allocation made at the beginning of the period. Before the six months were over the department was, of course, working on a modified allocation.

PRICES.

I am indebted for much of the information contained in this section to a memorandum on the control of prices of iron and steel prepared by the Historical Records Section of the Ministry of Munitions.

No attempt was made to control the iron and steel industries during the first year of the War, the Government making its purchases in the ordinary way by competitive tender or by individual negotiations with firms. With the increased demand prices naturally rose, and the following cases quoted from the *Iron and Coal Trades Review* may be taken as typical :—

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

	June, 1913.	December, 1913.	June, 1914.	December, 1914.	June, 1915.	December, 1915.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Pig iron—						
E. Coast, hematite	3 16 0	3 1 6	2 19 6	3 12 6	5 0 0	6 10 0
W. Coast, hematite	3 13 0	3 1 0	3 1 0	3 8 0	4 15 0	5 15 0
Cleveland, No. 3	2 16 0	2 10 6	2 11 6	2 14 0	3 7 0	3 17 6
Steel—						
Rails	6 15 0	6 2 6	6 5 0	6 7 6	8 5 0	11 0 0
Ship-plates	8 7 6	6 7 6	6 0 0	7 5 0	9 10 0	11 17 6
Angles	7 15 0	6 10 0	6 10 0	7 10 0 to 8 0 0	9 0 0 to 9 10 0	12 0 0
Joists and girders	7 10 0	6 15 0	6 15 0	7 10 0	10 0 0	11 2 6

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

It will be seen that the high prices of mid 1913 were not again reached until early 1915.

The first step towards control was taken in June, 1915, when shell steel makers were invited to negotiate with a view to agreeing upon a maximum price for shell steel, which at that time had reached 17*l.* per ton; the agreement arrived at fixed the price at 15*l.* for steel for shells up to 6-inch, with a higher price for larger calibres.

By fixing the price of shell steel, the manufacture of commercial steel was rendered relatively more profitable, and there was the possibility that the output of shell steel would diminish. It was therefore clear that unless the Government was to be forced to pay greatly-inflated prices for all the munitions into which steel entered, commercial steel would also have to be controlled. At a meeting held on January 6, 1916, to discuss the question of fixing maximum prices, the steel makers recommended a sliding scale of prices varying with the price of pig iron, but the Ministry preferred a definite price, fixed for a definite period, subject to revision at the end of that time, and the following maximum prices were finally agreed upon on the basis of hematite pig iron at 6*l.* 2*s.* 6*d.* per ton (only the chief classes of commercial steel are quoted, prices of other items being proportional).

	£	*s.*	*d.*
Rails (60 lbs. and up)	10	17	6
Ship-plates	11	10	0
Boiler plates	12	10	0
Joists	11	2	6
Angles	11	2	6

As the demand for steel so far exceeded the supply, fixing of maximum prices by means of voluntary agreements was not altogether satisfactory, and after further conferences with the trade, iron and steel were included in the list of materials whose prices were controlled under the Defence of the Realm Regulations.

The Ministry on more than one occasion endeavoured to reduce the price of shell steel, and in July, 1917, it was again suggested that the price should be reduced by 2*l.* per ton. It was recognized that the maximum prices for commercial steel gave but little margin of profit, but the suggestion to form a pool out of which shell steel makers should compensate commercial steel makers was rejected as impracticable, and an alternative proposition was being considered to reduce shell steel prices by 30*s.* and subsidize commercial steel makers 10*s.* per ton, when the basis of the calculations was upset by the Coal Controller's award of 1*s.* 6*d.* per day to coal miners, involving a rise

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of about 2*s.* 6*d.* per ton in the price of coal. The following agreement was finally arrived at (November 30, 1917) :—

1. The basis prices of shell steel were to remain unaltered at 15*l.* per ton, but to be subject to a refund of 25*s.* per ton by each maker direct to the Government; the margin for defective material to be reduced from 10 per cent. to 5 per cent.

2. The basis prices of commercial steel to remain unaltered, but to be supplemented by subsidies paid directly by the Ministry to each steel maker at the rate of 20*s.* per ton on ship, bridge, tank and chequer plates, and 15*s.* per ton on angles, joists and rails. Other classes of commercial steel to remain unchanged.

This agreement has been quoted in detail, because it shows that the Government, on being faced with the alternative of increasing maximum prices of iron and steel or granting special subsidies to compensate iron and steel manufacturers for increased cost of production, definitely chose the latter for the following reasons :—

(1) Any change in the price of iron and steel would seriously dislocate the vast number of contracts for the manufacture of munitions which depended either directly or indirectly on the prices of iron and steel. In any case it would have been almost impossible to prevent contractors and sub-contractors making an additional profit on the increased prices, especially where the contracts were placed on the basis of cost plus a percentage.

(2) Wages and, in many cases, royalties and ironstone prices are governed by sliding scales depending on the selling price of pig iron and steel; increase in prices would, therefore, lead to increases in wages, and so on in a spiral of ascending costs and prices re-acting upon and stimulating the other.

(3) Most of the additions in cost were the result of Government awards affecting rates of wages.

(4) The Government was itself either directly or indirectly the purchaser of 98 per cent. of the total iron and steel produced.

Although one of the arguments in favour of payment of subsidies had been that wages were based on a sliding scale of prices, and would further increase if maximum prices were raised, there was no attempt to conceal from the trade unions the granting of the subsidies; it was agreed that the inclusion or exclusion of the subsidy in the selling price for the purpose of the sliding scale should be left to negotiation. In confirming the agreement as to subsidies the Treasury stipulated that prices to be charged to the Allies should be so arranged as to ensure that there was no loss to the British Government.

In order to meet the increased cost of production due to the wages

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

awards of the 12½ and 7½ per cent. in the early part of 1918, the subsidy on plates was increased to 30*s.* per ton, and on angles and joists to 17*s.* 6*d.* per ton.

Another serious increase in costs of production occurred in June, 1918, when there was a substantial advance in miners' wages resulting in an increase of 4*s.* per ton in the controlled price of coal. This advance in wages, moreover, extended, not only to coal miners, but to ironstone miners, coke oven workers, and other allied industries, and was again reflected in the subsidies.

Once having fixed prices, therefore, all increases in the cost of production of steel, whether due to increased cost of labour, pig iron, coal, &c., were met by subsidies, and thus the cost of raw materials entering into the production of guns, ammunition, and all other munitions of war was stabilized.

The fixing of prices for steel made it necessary that the prices of all the commodities essential to steel production should also be controlled, and the Government therefore fixed maximum prices for iron ore (home and foreign—the latter involving the control of freight), coke, pig iron, scrap, ferro-manganese, magnesite bricks, fire-bricks, and silica bricks.

In the case both of pig iron and coke, after one or two increases in the maximum price, the subsidy principle was resorted to. The amount of the subsidies varied with different producers—in the case of coke, for instance, the opportunity was taken to investigate the relation between costs and selling prices. In cases where it was found that the makers were earning substantial profits, the amount of the subsidy given was less than the increased cost—thus throwing upon the makers themselves such part of the increase as they could afford to meet themselves. By adopting the subsidy method an economy was effected which would have been impossible to secure if the maximum prices had been raised, as under this method the Government contribution was restricted to the amount necessary in cases of good or average efficiency, and the higher rate which might otherwise have been necessary to keep all the works in production was given only to a few firms where, owing to special circumstances, it was impossible to make ends meet at the ordinary prices and subsidies.

THE TERMINATION OF CONTROL.

With the signing of the Armistice in November, 1918, it became necessary to take steps to restore the industry as early as possible to normal conditions. The subject had received most careful consideration by a special committee appointed some time before the Armistice, and it was clear that subsidies, which were justifiable so

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

long as the Government was the ultimate purchaser of practically the entire output of iron and steel, could not reasonably be continued when this ceased to be the case. On the other hand, it was recognized that a sudden withdrawal of subsidies would necessitate such increase in prices as to cause most serious dislocation, not only in the iron and steel industry, but in all the engineering and allied trades, at a time when it was of the utmost importance to ensure the rapid and smooth transfer to post-war conditions. The fact that an increase in selling price would lead to an increase in wages, owing to the operation of the sliding scale, and probably to a further increase in price, was a further argument against the sudden withdrawal of subsidies and corresponding increase in selling price.

After consultation with the National Federation of Iron and Steel Manufacturers and representatives of the trade unions concerned, it was decided to remove the subsidies in two stages: first, by the withdrawal on January 31, 1919, of the direct subsidies paid to steelmakers, and, secondly, by the withdrawal on April 30, 1919, of all remaining subsidies affecting ore, coke and pig iron. It was arranged that, until January 31, 1919, the existing schedule of maximum prices should remain in force, that on that date a fresh series of increased steel prices should come into force, allowing for the withdrawal of the steel subsidies; and that after April 30, with the removal of all subsidies, the control of prices of iron and steel should cease.

As it was definitely against the Government policy to permit the export of subsidized goods a schedule of export prices was issued representing (as nearly as possible) the true economic price of the materials in question, the prices in the schedule being, roughly, equal to the home selling price, plus the estimated amount of the subsidy paid by the Government on the goods in question.

To prevent any undue hoarding of subsidized material in anticipation of the rise in market prices, which would take place after the removal of subsidies, the Ministry continued the control of the allocation of pig iron, and also issued an order, under which any holder of more than 100 tons of iron and/or steel at April 30, 1919, was liable to repay to the Ministry 30*s.* per ton on the amount by which his stock exceeded the quantity in stock at October 31, 1915 (about which date control commenced), or October 31, 1918 (the last month before cessation of hostilities), whichever should be the greater. This refund, which represented approximately the average cost per ton of the subsidies remaining in April, 1919, operated as a safeguard against hoarding of subsidized material, and recouped the Ministry *pro tanto* for the subsidies it had paid on the stocks carried

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

over into the new period of uncontrolled and unsubsidized prices, in so far as such stocks were in excess of the quantity formerly held by each maker, merchant or manufacturer.

Prices since control was raised.

The difference between the control price of pig iron and the published export price was, on the average, 2*l.* 10*s.* per ton, and the difference between the control price of steel and the export price 5*l.* per ton. These amounts, therefore, can be taken to represent, approximately, the average amount of the subsidies in each case, and the amount by which home prices would rise unless costs of production were reduced. So far from costs having been reduced, however, they have continuously risen, and quoted market prices at different dates, according to the *Iron and Coal Trades Review*, have been as follows :—

	Control price.			Prices at the end of														
				May, 1919.			September, 1919.			December, 1919.			January, 1920.			February, 1920.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Pig iron—																		
E. Coast hematite	6	2	6	9	10	0	10	0	0	10	0	0	11	0	0	11	0	0
W. Coast ,,	6	7	6	9	0	0	10	4	6	10	4	6	11	5	0	12	5	0
Cleveland No. 3	4	15	0	8	0	0	8	0	0	8	0	0	8	15	0	8	15	0
Steel—																		
Rails	10	17	6	15	0	0	16	10	0	17	10	0	18	15	0	19	15	0
Ship-plates	11	10	0	17	10	0	18	15	0	21	10	0	23	10	0	23	10	0
Angles	11	2	6	17	5	0	18	5	0	18	5	0	19	10	0	20	10	0
Joists and girders	11	2	6	17	0	0	17	10	0	18	5	0	19	10	0	20	10	0

Certain cost comparisons which have recently been taken out in the Cleveland District and in Scotland show the following results :—

Cleveland (3rd quarter, 1919, compared with 1913).	Increase per cent.	Scotland (December, 1919, compared with 1914).	Increase per cent.
Hematite—		Hematite—	
Selling price	180	Selling price	247½
Fuel	138	Fuel	200
Foreign ore....	170	Foreign ore	225
Wages	275	Wages	262
No. 3 Foundry—		Forge and Foundry—	
Selling price	164	Selling price	219
Fuel	138	Fuel	170
Ironstone	173	Native ore	223
Wages	292	Wages	262
Repairs, maintenance, &c.	333		

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

LABOUR AND WAGES.

I am indebted to Mr. Flux for permission to use the figures in the tables on pages 373 and 374 showing the numbers employed, &c., in the industry at various dates from July, 1914, as ascertained from the "Z. 8" enquiry of the Board of Trade.

I am glad to know from him that it is the intention of the Board of Trade to publish a volume dealing with the results of these enquiries, which will enable our knowledge of the state of employment in the various industries throughout the war to be more precise.

The figures given refer to employment in the iron and steel trades proper; how labour was found for the ancillary industries—iron ore mining, limestone quarrying, ganister quarrying, &c., is interestingly told by Dr. Hatch in a valuable chapter on "Labour." Men from the china clay industry in Cornwall were sent to the ironstone mines of North Lincs and the Midlands; slate quarrymen from Wales to limestone quarries in Yorks and Derbyshire; tinplate workers from South Wales to blast furnace and steel works extensions; prisoners of war, both interned and captured, were sent to ironstone mines and ganister quarries.

The figures, however, are somewhat overstated by the inclusion of some firms who were partly engaged during the war on the manufacture of shells. Between July, 1914, and November, 1918, the numbers employed in the whole industry increased by approximately 66,500, or 21 per cent., of whom nearly 36,000 were women. Blast furnace labour increased by 30 per cent., while tinplate workers and ironfounders declined. At the maximum 108,000 men, or about one-third of the total numbers employed at the outbreak of war, were in the army. Before December, 1914, 40,900 men had joined the colours, the greatest number of enlistments after that taking place in the first half of 1918, when, in spite of the urgent demand for labour for blast furnaces and steel works, the disasters of the Spring Offensive resulted in a withdrawal of 19,000 from the iron and steel trades. By November, 1918, 42,500, or 11 per cent. of the total employed, were women. By January, 1920, 81,500, or 76 per cent. of the numbers who had enlisted, had returned to the industry from the army.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Numbers employed in the iron and steel industries at various dates from July, 1914.

(*The total includes workers in blast furnaces, steel manufacture, iron and steel rolling mills and puddling furnaces, tube manufacture, ironfounding, heavy forges, and tinplate and galvanized sheet manufacture.*)

MALES.

	Total.			Included in total.								
				Blast furnaces.			Iron founding.			Tinplates.		
	Numbers employed.	Numbers enlisted.	Numbers returned from Forces.	Numbers employed.	Numbers enlisted.	Numbers returned from Forces.	Numbers employed.	Numbers enlisted.	Numbers returned from Forces.	Numbers employed.	Numbers enlisted.	Numbers returned from Forces.
July, 1914	304,000	—	—	39,200	—	—	61,500	—	—	24,900	—	—
December, 1914	280,300	40,900	not available	—	—	—	—	—	—	22,000	2,100	not available
July, 1915	289,800	56,400	—	not available			not available			20,200	3,900	,,
December, 1915	294,500	63,800	800	—	—	—	—	—	—	19,900	4,400	200
July, 1916	302,000	72,000	8,800	38,700	8,400	1,300	52,500	16,300	1,800	19,200	5,500	200
January, 1917	315,000	77,900	12,400	40,700	8,800	2,600	52,900	18,200	1,900	16,700	6,500	200
July, 1917	319,600	82,700	18,200	44,900	9,600	3,900	54,700	20,200	2,000	15,100	6,900	300
January, 1918	323,200	88,600	20,400	46,300	10,000	4,100	55,300	21,300	2,400	14,500*	7,100	300
July, 1918	325,700	107,900	27,800	44,700	12,100	4,900	56,600	24,000	3,700	15,200	7,700	400
November, 1918	334,800	—	32,800	46,400	—	5,400	54,600	—	4,200	15,100	—	1,100
January, 1919	346,900	—	39,700	47,400	—	5,800	59,900	—	5,900	17,200	—	2,100
July, 1919	376,300	—	71,000	54,900	—	9,300	64,400	—	11,500	21,300	—	4,500
October, 1919	367,600	—	73,400	51,600	—	8,300	63,700	—	11,600	20,700	—	4,600
January, 1920	389,200	—	81,500	51,200	—	9,700	67,600	—	14,300	21,800	—	4,900

* The decrease from July, 1917, is attributable to one firm, and is not to be taken as indicative of the trade.

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

FEMALES.

	Total.	Included in total.		
		Blast furnaces.	Iron founding.	Tinplates.
July, 1914	6,800	100	1,200	3,700
December, 1914	not available	—	—	—
July, 1915	7,900	—	—	4,100
December, 1915	9,600	—	—	4,400
July, 1916	12,600	600	2,200	4,600
January, 1917	19,500	900	2,900	3,900
July, 1917	23,900	1,900	4,200	3,200
January, 1918	31,600	3,800	5,200	3,300
July, 1918	40,800	4,500	8,500	3,700
November, 1918	42,500	5,400	7,900	3,700
January, 1919	26,200	3,600	4,600	4,200
July, 1919	16,200	2,200	3,100	4,400
October, 1919	14,300	1,900	2,900	4,500
January, 1920	13,600	1,900	2,500	4,600

WAGES.

The question of wages in the iron and steel trade was dealt with by Mr. Allen in his Paper read in December last, but perhaps the information therein contained may be supplemented to some extent. Here again I understand that the Ministry of Labour contemplate publishing a volume on the question of wages during the War—a volume which is assured of a warm welcome.

As Mr. Allen pointed out, most of the men employed in the iron and steel trades, with the exception of labourers, bricklayers, blacksmiths and maintenance men, are covered by sliding scale agreements, and the effect of the increase of prices caused by the increased war demand caused a corresponding increase of wages under the sliding scale until maximum prices were fixed. After prices had been fixed, wages remained stationary for a time, so that, as we have seen, one of the arguments in favour of granting subsidies was that wages would not be affected. In many cases, however, the subsidies were regarded as an addition to the selling price, and consequently reacted on wages.

Certain workers in the iron and steel trades also received war bonuses, as the result of awards by the Committee on Production. Soon after the granting of the 12½ per cent. bonus to the engineering, foundry and shipbuilding trades, representatives of the iron and steel workers made representation for an equivalent increase, as they asserted that, in many cases, skilled men were in a less satisfactory position than unskilled men, who had received full war bonuses. This claim was dealt with on the following lines :—

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Workers who had received no more than 20*s.* advance obtained the advance of 12½ per cent. on their earnings, but in the case of workers who had received war advances in excess of 20*s.*, the excess was merged in the 12½ per cent. Any advance accruing under the sliding scale after the date of settlement was to be merged in any advance arising out of the settlement.

It was also agreed at a conference between the Ministry and representatives of employers and workmen, early in February, 1918, that the subsidies given to manufacturers since the Coal Controller's award of October, 1917, should also be regarded as an advance in the selling price, and therefore increase wages according to the sliding scale; this Conference also agreed that all war bonuses given since March 1, 1917, to meet the increased cost of living, should be merged in the increased wages that resulted from the inclusion of subsidies in the selling price for the purposes of the sliding scale.

As far as I am aware, no estimate has been made of the average wages of workers in the iron and steel industries during the War—for this we must await the promised volume from the Ministry of Labour. According to the Wage Census, quoted by Dr. Bowley in *The Division of the Product of Industry*, the estimated annual earnings for full employment in iron and steel production amounted to 81*l.* in 1906. In December last, according to returns furnished to the National Federation of Iron and Steel Manufacturers, the average weekly wages paid to iron and steel workers by firms employing approximately 100,000 men amounted to 4*l.* 5*s.* 5*d.*

FINANCE OF THE INDUSTRY.

A large proportion of firms in the iron and steel industry are private limited companies whose balance sheets are consequently not accessible. The balance sheets of 14 companies whose balance sheets have regularly appeared in the *Economist* for a number of years have, however, been summarized, and the result given in the table on page 376. The companies had, in 1918, a total authorized capital of 16,787,000*l.*, of which 13,241,000*l.* had been paid up.

The table summarizes certain items in the balance sheets for each of the years 1906 to 1908, 1911 to 1913, and 1916 to 1918.

"Authorized" capital increased by 4,650,000*l.* between 1906 and 1918, and issued capital by 2,507,000*l.*, while debentures increased by only 525,000*l.*, having declined steadily since 1911.

The amount of "Reserves" has increased by 4,519,000*l.* to 5,776,000*l.*, so that by 1918 "reserves" were equal to nearly half the paid up capital.

The value of "Property" has obviously been consistently written

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Table showing results in each of the years 1906–08, 1911–13, *and* 1916–18, *of fourteen iron and steel companies.*

(In £1,000's.)

Item.	1906–08.			1911–13.			1916–18.		
	1906.	1907.	1908.	1911.	1912.	1913.	1916.	1917.	1918.
Issued capital—									
Preference	2,891	2,891	2,891	2,891	3,191	3,191	3,191	3,191	3,191
Ordinary....	7,843	7,972	7,997	8,047	8,051	8,081	8,673	9,136	10,050
Debentures	2,985	3,421	3,583	4,008	3,962	3,873	3,796	3,694	3,510
Reserves	1,257	1,495	1,647	2,083	2,373	2,613	3,592	4,710	5,776
Creditors	2,393	2,335	1,808	2,256	2,313	2,346	5,608	9,712	10,969
Property	12,121	12,595	12,841	13,548	13,783	13,946	13,572	14,205	16,057
Stock	2,526	2,713	2,455	3,492	3,391	3,783	4,222	4,352	5,381
Debtors	1,924	2,206	1,708	1,995	2,556	2,498	3,955	4,853	5,752
Investments	982	1,019	1,304	1,078	975	1,201	3,879	7,536	7,130
Cash, &c.	708	881	623	446	607	879	2,215	2,654	2,602
Net profits (after payment of deb. int.)	1,429	1,702	1,165	1,298	1,441	2,253	2,667	3,005	2,941
Depreciation and reserves (including balance of carry forward)	643	776	487	612	690	1,186	1,533	1,735	1,621
Dividends—									
Preference amount	171	171	154	169	177	198	191	197	193
Ordinary amount	615	755	524	517	574	869	943	1,073	1,127
,, rate per cent.	7·8	9·5	6·6	6·4	7·1	10·8	10·9	11·8	11·2
Of the net profits the proportion to—	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Preference dividends	12·0	10·0	13·2	13·0	12·3	8·8	7·2	6·6	6·6
Ordinary	43·0	44·4	45·0	39·9	39·8	38·6	35·3	35·7	38·3
Reserves	45·0	45·6	41·8	47·1	47·9	52·6	57·5	57·7	55·1

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

down, since even with the war-time improvements at many of the works and the great appreciation in values, "Property" has increased by only 30 per cent. The increase in the practice of holding shares in ancillary undertakings—on the one hand suppliers of raw material, and on the other the purchasers of the finished products—is clearly seen in the item "Investments," which has increased from 982,000*l.* in 1906 to 7,130,000*l.*, while the increase in "Cash, &c.," is partly accounted for by holdings of war stock and treasury bills. Net profits in 1918 were barely more than double what they were in 1906, and only 30 per cent. more than in 1913; the average rate of interest, therefore, allowing for increase of capital, was but little more in 1918 than in 1913 (11·2 against 10·8).

There has been an appreciable increase in the proportion of the net profits placed to reserve. In 1906 the proportion was 45 per cent., and in 1918 55 per cent., having been nearly 58 per cent. in 1917. The actual amount placed to reserve (including depreciation) rose from 643,000*l.* in 1906 to 1,621,000*l.* in 1918, when it equalled 12·2 per cent. of the paid-up capital.

FRANCE.

The information contained in this section is mainly derived from M. Pinot's book *Le Comité des Forges de France au Service de la Nation* and a recent bulletin issued by the Comité des Forges. The figures quoted throughout are in metric tons.

As in Great Britain so in France the year 1913 had been the year of maximum production in iron and steel; the pig iron production amounting to 5,207,000 tons and crude steel to 4,687,000 tons; pig iron having risen from 2,057,000 tons in 1892 to 4,038,000 tons in 1910, and steel from 1,600,000 tons in 1892 to 3,413,000 tons in 1910. France was thus the fourth steel-producing country of the world, her production being exceeded only by the United States, Great Britain and Germany. Again, as in Great Britain, production was falling in the early part of 1914—the production of pig iron in the first half year being only 2,449,000 tons and of steel 2,298,500 tons. Then came the general decree of August 4, calling to the colours more than 20 classes and paralyzing the industry. The works lost at one blow 67 per cent. of their personnel—directors, engineers, managers and workpeople left for the army, so that the management as well as the workpeople was disorganized. It was necessary to reconstitute the shifts with the older workpeople who were not affected by the mobilization, but even in the districts farthest removed from the theatre of war numerous blast furnaces, steelworks, and rolling mills were stopped because of the lack of personnel and raw material. In

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

addition to this the result of the battles in the autumn of 1914 allowed the enemy to occupy and to retain for more than four years almost the whole of the industrial area of the north and east. The following table shows how much of the production of 1913 came from the invaded area :—

	Pig iron.		Crude steel.		Finished steel.	
	Tons.	Per cent.	Tons.	Per cent.	Tons.	Per cent.
Total production of 1913	5,207,000	100	4,687,000	100	3,111,000	100
Production of works situated in the invaded areas.	3,336,000	64	2,719,000	58	1,695,000	54
Production of works situated in non-invaded areas.	1,871,000	36	1,968,000	42	1,416,000	46

As soon as the course of military events showed the necessity for reconstituting and increasing the stocks of munitions, the return of certain skilled workers in coal, iron and steel was allowed, and in July, 1915, 20 blast furnaces (a quarter of those which remained) were put in blast, and in the second half of 1915 20 others were lit and 10 more were ready for lighting. A similar activity marked the manufacture of steel, and in January, 1916, 97 O.H. furnaces were working, 15 or 20 others were ready for working, and 35 new furnaces were in course of construction. Production was increased not only by bringing into operation blast furnaces, which, for various reasons, had been idle for several years, but an impetus was also given to the creation of new means of production, and the new blast furnaces which were completed during the war, or in course of construction at the cessation of hostilities, correspond to an increased capacity of 590,000 tons.

As regards steel, the number of furnaces constructed and put into operation during the war, or in course of construction at its close, together with the percentage increase over the numbers existing in the non-invaded area, are as follows :—

	Number.	Increase per cent.
O.H. furnaces	109	94
Converters	56	114
Crucibles	1,280	105
Electric furnaces	18	75

Excluding these new plants destined to replace older ones, these furnaces represent a net increase in capacity of 1,760,000 tons.

We have seen that the capacity left to France on the 1913 basis

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

was 1,871,000 tons of pig iron and 1,968,000 tons of steel, and that this was augmented in the way just described; actual production, however, fell far below capacity, and even at its maximum, in October, 1917, corresponded to an annual rate of only 1,813,000 tons of pig iron and 2,398,000 tons of steel. The variations in production are shown in the following table :—

	Production in tons.	
	Pig iron.	Steel.
1916, January	90,140	136,083
April	108,414	151,432
July	130,347	160,219
October	143,853	170,297
1917, January....	144,831	199,615
April	139,967	178,644
July	149,354	190,160
October	151,102	199,794
1918, January....	111,791	166,076
April	91,538	148,509
July	107,510	156,212
October	103,331	150,576

The relation of actual production to possible production had it been possible to utilize capacity to the full was :—

	Pig iron.	Steel.
	Per cent.	Per cent.
1916	100	94
1917	72	74
1918	56	59

The reasons for these results were, of course, the shortage of man-power and fuel and the congestion on the railways. The return of men from the front had naturally been strictly limited to the most indispensable, and in order to replace the normal employees recourse had to be made to prisoners of war, or foreign or colonial workmen, who, neither from the point of view of quantity or quality were able to meet the needs of the steel works. The shortage of coke was very acute, due to the enemy occupation of the coal basin of the Nord and the Pas de Calais, while the submarine menace hampered supplies from England; in the course of a census in the autumn of 1917, it was found that 16 blast furnaces were idle from lack of fuel. Transport obviously has an important bearing on an industry, which demands such heavy tonnage of raw material—ore, coal, refractories, &c., and the congestion on the lines due to the movement of troops naturally re-acted on the industry.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The production of pig iron from 1913 onwards, analyzed according to qualities, was as follows :—

	1913.	1914.	1915.	1916.	1917.	1918.
Foundry iron } Special foundry iron }	953,683	532,250	173,487	{ 2,502 376,280	35,368 505,220	102,387 320,312
Forge	532,003	268,500	269,157	391,346	405,796	387,878
Bessemer pig	124,336	119,666	22,162	68,879	33,817	28,484
Basic pig	3,508,837	1,703,566	76,607	561,748	613,533	333,350
All other qualities	88,448	66,564	44,363	87,936	141,233	134,083
Total	5,207,307	2,690,546	585,776	1,488,691	1,734,967	1,306,494

The production of basic pig iron, which represented two-thirds of the total production in 1913, represented not more than 28 per cent. in 1918. On the other hand, there was an important increase in the proportion of foundry and forge iron, due, on the one hand, to the destruction of the most important basic works situated in Meurthe-et-Moselle, and, on the other hand, to the change in production due to war demands—it will be remembered that France used large numbers of a special cast-iron shell and relied largely on America for her shell steel.

The following table shows the geographical distribution of production during the war years :—

	East.	North.	Central.	South-West.
1913	3,560,190	933,089	184,098	261,488
1914—				
1st half-year	1,672,158	432,214	85,244	123,016
2nd half-year	43,824	33,879	46,733	59,975
1915	26,520	8,664	149,321	185,330
1916	306,380	284,700	217,684	331,544
1917	376,575	383,365	233,850	371,785
1918	228,325	171,985	221,460	331,117

	South-East.	West.	Total production.
1913	159,051	109,391	5,207,307
1914—			
1st half-year	76,212	60,114	2,448,958
2nd half-year	44,023	13,154	241,588
1915	158,389	57,552	585,776
1916	226,997	121,386	1,488,691
1917	239,730	129,662	1,734,967
1918	193,712	159,895	1,306,494

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

These figures illustrate the great changes in the balance of French production by the occupation of the greater part of the industrial area of the north and east. The production of the north was in 1916 and 1917 only a third of what it was in 1913. The contribution of the east to the total production fell from 68 per cent. to 20 per cent.

Blast furnaces.

Of the 170 blast furnaces that France possessed at the beginning of 1914 more than half (12 in the north and 78 in the east) remained throughout the war in invaded territory. These were, for the most part, of recent construction, and therefore of greater capacity than the rest, being equal, as has already been said, to 64 per cent. of the total capacity of the country. The following table shows the variations in the number of blast furnaces in blast :—

	Furnaces.			Monthly production of furnaces in blast.
	In blast.	Out.	Total.	
				Tons.
January, 1914	131	39	170	434,000
July, 1915	20	61	81	46,000
January, 1916	40	41	81	89,000
July, 1916	46	38	84	135,000
January, 1917	53	29	82	125,000
July, 1917	56	30	86	160,000
January, 1918	56	26	82	131,000
July, 1918	55	32	87	102,000
January, 1919	59	30	89	88,000

At the beginning of 1919, 12 blast furnaces were in course of construction. In addition to her home production France imported the following amounts of pig iron :—

	1913.	1914.	1915.	1916.	1917.	1918.
Imports	Tons. 50,000	Tons. 22,000	Tons. 175,000	Tons. 621,000	Tons. 669,000	Tons. 393,000

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Steel.

The production of steel from 1913 has been as follows :—

	East.	North.	Central.	South-West.
	Tons.	Tons.	Tons.	Tons.
1913	2,528,630	1,165,888	527,952	159,994
1914—				
1st half-year	1,264,738	572,214	241,904	80,060
2nd half-year	46,146	17,172	192,986	33,142
1915	77,195	49,178	580,881	119,218
1916	352,489	244,785	763,159	207,347
1917	396,060	258,557	969,371	222,507
1918	255,047	180,611	843,601	180,720

	South-East.	West.	Total production.
	Tons.	Tons.	Tons.
1913	120,258	184,144	4,686,866
1914—			
1st half-year	54,277	85,316	2,298,509
2nd half-year	29,356	38,543	357,345
1915	115,549	145,679	1,087,700
1916	176,463	207,649	1,951,892
1917	171,806	213,350	2,231,651
1918	130,317	217,635	1,807,931

The production of the east has fallen by between 80 and 90 per cent. ; that of the north by between 80 and 85 per cent.

In 1914 France had 164 open-hearth furnaces, 100 converters, 24 electric furnaces and 125 crucibles. The occupation of the regions of the north and east deprived France, during the whole war, of 48 open-hearth furnaces, 53 converters and 38 crucibles, reducing the amounts of production of crude steel, as has already been said, by 58 per cent. The number of furnaces available, active and idle, at different dates was as follows :—

	Converters.			Open-hearth furnaces.		
	Active.	Idle.	Total.	Active.	Idle.	Total.
September, 1914	—	—	47	—	—	116
January, 1916	23	29	52	97	27	124
July, 1916	18	34	52	102	27	129
January, 1917	31	27	58	114	26	140
July, 1917	27	47	74	104	48	152
January, 1918	40	35	75	98	64	162
July, 1918	46	44	90	94	83	177
January, 1919	49	46	95	76	108	184

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

	Crucibles.			Electric furnaces.		
	Active.	Idle.	Total.	Active.	Idle.	Total.
September, 1914	—	—	1,215	—	—	13
January, 1916	1,127	88	1,215	9	4	13
July, 1916	1,176	108	1,284	7	6	13
January, 1917	1,212	198	1,410	13	5	18
July, 1917	1,260	301	1,561	17	4	21
January, 1918	1,423	325	1,748	16	13	29
July, 1918	1,264	740	2,004	17	14	31
January, 1919	916	1,164	2,080	15	16	31

The figures show that the number of furnaces available has been constantly growing, the reasons which prevented a corresponding increase in output have already been stated. At the end of 1918 there were under construction in the steel works 8 converters, 41 open-hearth furnaces, 417 crucibles and 11 electric furnaces. Adding these to the existing furnaces, France should now possess 103 converters, 225 open-hearth furnaces, 2,497 crucibles, and 42 electric furnaces.

Post-War position.

The restoration of Lorraine gives France the following capacity for production :—

	Production in millions of tons of				Deficiency in coal.
	Coal.	Ore.	Pig iron.	Steel.	
France, 1913	40	22	5·2	4·7	22
France and Alsace-Lorraine	44	43	9·1	7·0	30
France and Alsace-Lorraine and Sarre	57	43	10·5	9·0	22

From which it will be seen that the French capacity for production has about doubled, but that the deficiency in coal remains about the same. Production has, however, been severely handicapped by shortage of labour and fuel and railway congestion. Colonel Hausser, Director for the Ministère de la Reconstitution in Alsace-Lorraine, recently wrote to Mr. Layton, from Strassburg, as follows :—

"Nous passons ici par une période formidablement dure ; pas "beaucoup de coke, pas du tout de charbon, les trains de voyageurs, "reduits, les wagons de marchandises impossible à trouver.

"C'est à ne plus savoir à quel saint se vouer."

Production of pig iron for the first half of 1919 (the latest period for which figures are available) amounted to only 1,509,000 tons, to

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

which Alsace-Lorraine contributed 450,700 tons, or 45 per cent., and the north and east 144,000 tons, or 14 per cent.—less even than the rate of production in 1918; the production of steel for the same period amounted to only 1,004,500 tons, to which Alsace-Lorraine contributed 322,000, or 32 per cent., and the Centre 283,000, or 28 per cent.

THE POSITION IN THE UNITED STATES.

Long before the War the United States had become the first iron and steel producing country in the world, having passed Great Britain's pig-iron production in 1890 (when the production amounted to 9,203,000 tons against Great Britain's 7,905,000 tons), and had attained by 1913 an annual production of 30,966,000 tons of pig iron and 31,301,000 tons of steel ingots and castings. Most of this huge production was, however, consumed at home, for the total exports of iron and steel and their products amounted in 1913 to only 2,746,000 tons, of which only 278,000 tons was pig iron. "At the "outbreak of the War," to quote the historian of America's iron and steel prices, "the iron and steel trades were reflecting the industrial "depression of 1914," a statement borne out by the decline in production of pig iron in 1914 to 23,332,000 tons, of steel to 23,513,000 tons, and of exports of iron and steel to 1,549,000 tons. When war was declared it was at first thought that prosperity would soon return, for America would be able to supply the markets formerly supplied by the belligerents; the shipping situation and the dislocation of finance, however, prevented this, so that, for a time, the depression was actually accentuated, and it was not until August, 1915, that the monthly production of pig iron was again equal to that of the early months of 1913, or that prices rose to their pre-War level. It was then due, not to orders from neutral markets, but to orders from the belligerents for munitions and material for munitions—exports to belligerents in the year ended June 30, 1915, exceeded those in

Exports of iron and steel from U.S.A., 1913–18.
(Compiled from *The Foreign Commerce and Navigation of the U.S.A.*)

Year ending June 30,	Quantity.			Value in $.		
	To belligerents.	To neutrals.	Total.	To belligerents.	To neutrals.	Total.
	Tons.	Tons.	Tons.			
1914....	120,300	1,887,900	2,008,200	4,614,200	77,689,400	82,303,600
1915....	610,500	1,345,700	1,956,200	19,735,500	56,368,900	76,104,400
1916....	2,218,500	2,334,500	4,553,000	103,180,700	122,797,200	225,978,000
1917....	3,547,300	3,079,100	6,626,400	229,447,200	232,593,100	462,040,300
1918....	2,451,100	3,110,000	5,561,100	248,441,900	342,917,800	591,359,700

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the previous twelve months by nearly 500,000 tons, a gain which was rather more than counterbalanced by the decline in exports to neutrals. After this exports both to belligerents and neutrals increased rapidly until 1917–18, when America required more steel for her own war programmes—it will be noticed that it was the exports to the Allies and not to neutrals that were cut off.

The enormous contracts for shell steel, shells, guns, machine tools, barbed wire, &c., placed by the Allies, increased also the home demand, for steel was necessary for the construction of new manufacturing plants, and steel makers themselves required steel in order to enlarge their own works. The production of 1916 exceeded that of 1914 by nearly 70 per cent. in the case of pig iron and over 80 per cent. in the case of steel, and most of the increased output went either directly or indirectly into the production of war material. Not only was the increased production devoted to war orders, but existing equipment was often diverted into war channels, *e.g.*, rail mills were adapted for rolling shell steel bars. To quote Mr. Stewart once again :—

"The demand for steel was so insistent that in spite of the "increased output prices continued to rise at an unprecedented "rate. Steel rose in price as in production at a much more rapid "rate than pig iron. In August, 1916, after two years of war, market "prices of pig iron had risen 38 per cent. and steel billets 130 per "cent. The effectiveness of these prices in stimulating production "cannot be questioned. The prices were high enough, not merely "to maintain production, but to persuade producers to increase "their productive capacity in spite of the high costs of construction "and the knowledge that the war demand for steel could not long "continue. Out of the profits yielded at these prices the industry "could provide for a rapid rate of depreciation and obsolescence and "still show enormous gains."

When the United States came into the war, therefore, in April, 1917, the steel works were already overwhelmed with orders, and with the new demands prices naturally rose still higher—the market prices for steel plates, for instance, increased by 100 per cent. between May and July. There was only one remedy, as was found in this country—price control—and this was being hinted at in June. The Government conferred with iron and steel producers in July, and the first list of maximum prices was issued in September. Between July and September prices rapidly declined, as will be seen from the following examples taken from No. 33 of the bulletins issued by the War Industries Board of the United States, dealing with the history of prices during the war :—

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Table showing wholesale prices in U.S.A., 1913–17, *for iron, steel and certain products, with Index Nos., based on the average price, July* 1, 1913, *to June* 30, 1914.

Price per unit during	Iron-ore.		Coke.	Pig iron.		Scrap steel.	Billets.
	Mesabi non-Bessemer 51½ per cent.	Mesabi Bessemer 55 per cent.	Connellsville furnace.	Basic.	Bessemer.	Heavy melting.	Steel, open hearth.
Base price.	$3·3083 per gross ton.	$4·0417 pergross ton.	$2·0625 per short ton.	$13·3183 per gross ton.	$15·6858 per gross ton.	$11·9500 per gross ton.	$21·7917 per gross ton.
(Average price July 1, 1913, to June 30, 1914.)	=100	=100	=100	=100	=100	=100	=100
Index No.—							
1913	103	103	118	110	109	109	117
1914	92	92	88	97	95	96	92
1915	85	86	87	103	101	111	106
1916	111	107	157	148	152	154	207
1917—							
1st qr.	153	141	376	230	233	195	301
2nd qr.	153	141	384	322	301	273	395
July	153	141	594	394	366	324	436
August	153	141	485	384	349	285	385
Sept.	153	141	570	321	306	285	321
October	153	141	291	248	237	246	253

Price per unit during	Shapes.	Plates.	Rails.	Sheets.	Tin plates.	Wire rods.
	Steel, structural.	Steel, tank.	Steel, open hearth, standard.	Steel, galvanized, No. 28 Gauge.	Domestic coke, 14 by 20 in.	Bessemer.
Base price.	$0·0146 per lb.	$1·2600 per cwt.	$30·1467 per gross ton.	$2·9858 (f.o.b mill) per cwt.	$3·4375 per 100 lb. box.	$26·3075 per gross ton.
(Average price July 1, 1913, to June 30, 1914.)	=100	=100	=100	=100	=100	=100
Index No.—						
1913	110	112	100	110	103	108
1914	90	90	100	96	98	97
1915	101	102	100	129	94	108
1916	194	224	111	162	149	212
1917—						
1st quarter	245	309	133	226	208	296
2nd ,,	317	426	133	292	237	334
July	424	714	133	351	349	366
August	424	711	133	346	349	357
Sept.	355	560	133	326	349	337
October	205	258	133	298	349	294

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

It will be seen that the maximum prices stabilized the market for many products at a level below that prevailing before the United States entered the war. When prices were fixed, it was also necessary to provide against certain disadvantages which, it was thought, might arise, such as that production would fall; that producers would compensate themselves from loss of profit by reducing wages; and so on, but the producers gave suitable guarantees on all these points. It did so happen that there was a drop in the production of pig iron in 1917, but this was due to transport difficulties in the winter which interrupted the movement of ore and coke, and the shortage was more than made good by the increased use of scrap, so that the production of steel actually increased from 42,774,000 tons in 1916 to 45,061,000 tons in 1917.

A necessary corollary of maximum prices was the allocation of steel to essential uses by the Government, and a system of priority certificates, apparently similar to that used in this country, was adopted by means of which the director of Steel Supply, as agent for the War Industries Board, allocated the steel supply according to a priority list which placed the industries using steel according to their importance for purposes of war. Summing up the position, Mr. Stewart, the writer of the bulletin, says :—

"Confronted with the situation as it existed in the middle of "1917, price-fixing was a wiser expedient than any of the suggested "alternatives. It was more direct and more economical than paying "the market price and trusting to the excess-profit tax to bring back "to the Treasury the extraordinary profits. It was simpler, as a "matter of administration, and in closer accord with the general "policy of the Government, than the commandeering of the steel "plants. The policy succeeded in bringing about substantial reduc-"tions, in giving uniformity to prices, and in stabilizing the market. "The Control was so effective that, in looking back upon the "experience, the only regret is that the control was not exercised "at an earlier date."

It must be admitted, however, as, indeed, the writer does earlier in his bulletin, that it was the prospect of high prices which induced the producers to increase their capacity, so that in 1918 the output of pig iron exceeded that of 1913 by 8,089,000 tons, or by 26 per cent., and the output of steel by 13,161,000 tons, or by 42 per cent. The output of pig iron and steel in the United States during the War years was as follows :—

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

	Pig iron.	Steel ingots and castings.
	Tons.	Tons.
1913	30,966,000	31,301,000
1914	23,332,000	23,513,000
1915	29,916,000	32,151,000
1916	39,435,000	42,774,000
1917	38,621,000	45,061,000
1918	39,055,000	44,462,000

Even these figures by no means represent the total plant capacity for steel manufacture, which is put by the American Iron and Steel Institute at 54,483,000 tons at the end of 1918.

We have already seen also that, during the War, the United States built up a big export trade, both with the Allies and neutrals; it is therefore not to be wondered at that there are many who view the prospects of American competition in the iron and steel trade with something like alarm.

CONCLUSION.

The table on page 389 shows the production and exports of iron and steel of each of the chief steel-producing countries for 1913, 1918 and, as far as the figures are available, for 1919.

With the world starving for steel in order to repair the ravages of war and in order to make up the lee-way caused by the impossibility of obtaining steel for any but destructive purposes during five years, it may seem surprising that the production of iron and steel in 1919 should have been much less than in 1918. This is true, not only of Germany and France, but of the United Kingdom (where the production of pig iron was less by 1,688,000 tons than in 1918, and of steel by 1,645,000 tons) and of the United States, where the deficiency in the make of pig iron amounted to 8,365,000 tons, and of steel to 10½ million tons.

The failure to respond to the big demand, which far outruns supply, has been due, in the main, to physical causes, although it must be remembered that the demand did not become effective until towards the middle of the year, and is even now for some products (*e.g.*, rails and rolling stock) not fully effective. Among the main causes for the drop in production in this country have been: The change over from war to peace production—the mills, in many cases, are now rolling miscellaneous sections, whereas under war conditions they had usually a long continuous run on the same product; the adoption early in the year of the eight-hour day; the frequent shortage of coal and coke; the dislocation of transport, which has

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Production and exports of iron and steel of United Kingdom, United States, France and Germany, 1913, 1918 *and* 1919.

In tons of 2,240 lbs.

	1913.	1918.	1919. 1st quarter.	1919. 2nd quarter.	1919. 3rd quarter.	1919. 4th quarter.	1919. Total.
Production—							
Pig Iron—							
United Kingdom	10,260,000	9,086,000	1,973,000	1,976,000	1,743,000	1,701,000	7,393,000
United States	30,966,000	39,055,000	9,336,000	6,701,000	7,660,000	6,889,000	30,586,000
Germany	12,673,000	9,041,000	1,516,000	1,473,000	1,656,000	?	?
Lorraine	3,809,000	1,471,500†	443,600		?	?	?
Luxemburg	2,508,000	1,247,000	278,000		?	?	?
France	5,126,000	1,286,000	550,000		?	?	?
Steel—							
United Kingdom	7,664,000	9,539,000	2,210,000	2,054,000	1,810,000	1,820,000	7,894,000
United States	31,301,000	44,462,000	10,086,000	7,602,000	?	?	34,000,000
Germany	15,087,000	12,700,000	1,710,000	1,652,000	2,271,000	?	?
Lorraine	2,250,000	1,204,000†	317,000		?	?	?
Luxemburg	1,315,000	1,178,000	82,700		?	?	?
France	4,613,600	1,780,000	671,000		?	?	?
Exports of iron and steel—							
United Kingdom	5,049,090	1,617,000	440,000	616,000	598,000	639,000	2,293,000
United States	2,746,000	5,375,000	1,079,000*	1,368,000*	1,034,000*	855,000*	4,336,000
Germany	5,664,000	—		82,000†		31,400‡	?
France	578,000	—	4,600*	8,600*	13,519*	?	?

* Excluding scrap. † January to October. ‡ November.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

on several occasions caused works to close down; the railway strike in October; a prolonged strike in South Wales; and the strike of the furnace bricklayers in Scotland.

The decline in America was, of course, mainly due to the great strike, as production in the first quarter was not so much behind the 1918 rate. These are, however, temporary difficulties, and sooner or later continental output will recover and America again have a surplus for export—how soon it is impossible to say. The prospect of serious competition with France and Germany may be discounted for the next few years. Probably France will never be the competitor that Germany was, although, on the surface, there has merely been a transfer of productive capacity from Germany to France; but if America can produce a surplus for export over her own requirements, which many observers doubt on account of the difficulties of labour supply, the question as to who shall supply foreign markets will surely be reduced to one of price, except in so far as the quality of the British product may be superior to the American. Costs are rising in America, as here, but they are still much lower in the States, though for the moment our markets are being protected by the exchange position and cost of freight.

The problem, therefore, for British manufacturers—leaving aside the possibility of protection, which is a political issue—is largely that of reducing costs. One of the first directions in which this may be looked for is in the economy of fuel, since the item for fuel enters so largely into the cost of steel; a natural corollary of this is the conservation of coking coal. Good coking coal is one of Britain's assets, and, in view of the demand for the iron and steel industry and the requirements of France and Italy, a larger proportion of our coking coal should be reserved for metallurgical coke. Other suggestions for enabling Great Britain to meet foreign competition in the iron and steel trades were contained in the report of the Board of Trade Committee on the iron and steel trades, which reported early in 1917; the chief of them were as follows:—

1. That an organization be formed comprising users of iron ore, and others interested in and essential to the conduct of the trade, to undertake the import and distribution of foreign ores in Great Britain, and acquire interests in ore properties abroad, and that such organization should receive Government financial assistance, if necessary.

2. That an organization—co-operative in character—be formed among British manufacturers for the purpose of obtaining adequate supplies of suitable iron ore. Ultimately this organization might become the owner of large deposits or gain absolute control of them

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

in such a way as to ensure continuous and uninterrupted supplies of raw material to the British manufacturer. Further, an investigation should be undertaken by competent engineers of the hitherto unexploited deposits of iron ore in the United Kingdom.

3. That a national selling organization should be formed for the purpose of marketing British iron and steel products in an efficient and economical manner. This organization should comprise a central body with separate sections, each dealing with the products controlled by existing associations.

4. That British iron and steel manufacturers should be urged to form combinations for the purpose of laying down large and well-designed new units, for cheap production upon modern lines. The companies formed to build and work these plants should, if necessary, receive financial aid from the Government, especially in view of the high cost of laying down large plants to-day. This high cost is largely due to the artificial inflation of prices by war conditions, and a fall in prices would involve heavy depreciation of capital values.

5. The expansion of the industry upon this scale will involve a demand for materials and labour which can only be met by the careful conservation of existing resources. No doubt, by the natural operation of demand, a larger proportion than hitherto of coking coal will be reserved for home use, but it would be preferable to reinforce the natural operation by bringing into intimate relation the iron and steel manufacturer and the owner of coking coal.

Discussion on Mr. Birkett's Paper.

The Chairman said there could be no question that they were very much indebted to Mr. Birkett for his valuable and instructive Paper, and especially indebted because he had taken over a work which Mr. Layton had promised. It was necessarily not a Paper which could be abstracted; because all the details were part of the picture and so important that very little could be omitted. He would not detain them with any observations because he knew very little of the subject, although he believed that twenty years before he had written a Blue Book about Iron and Steel Imports all over the world, when he was at the Board of Trade. He was very glad that they were favoured with the presence of several authorities on the subject, and he would ask Sir Robert Hadfield to propose the vote of thanks.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Sir ROBERT HADFIELD, in proposing the vote of thanks, said that they had all listened with the greatest possible interest to the most valuable and instructive Paper by Mr. Birkett. It was really a Paper which was boundless in its field for discussion, and he did not know how it was possible in a short evening to discuss the many most interesting, valuable, and vital points to the country which were put forward in it. He would, however, like to commence by saying that he thought the Paper showed the British metallurgist had not been wanting during the War. He had indeed done his duty to his country under such conditions and in almost inconceivable positions, such as had arisen in regard to the production of steel, the material for which he had very often great difficulty in obtaining in satisfactory quantities and of the requisite quality. Nevertheless, they had surmounted those difficulties and delivered the goods at the Front. They knew how many thousands of tons of steel were fired away every day; he thought there was great credit due to the metallurgist for the way in which he had worked and served the nation during that time. The Paper brought home a very important fact, so it seemed to him; that is, as to why the Empire should be in any way dependent on outside countries for the supply of iron and steel. There was an old Chinese proverb which he had often quoted and one well worth repeating: "That "he who owned the iron of the world would rule the world." There was no doubt that before the war their enemy, Germany, had that point in their minds. In his opinion, one of the chief reasons for the way in which Germany had behaved and why the War had been undertaken was to get possession of that Naboth's Vineyard which they coveted, namely, the iron and coal fields of Alsace-Lorraine. Germany knew that in not so many years hence she would run short in her supplies of iron ore, as her production of iron and steel had increased on an enormous scale, and all credit was due to her in that respect, but the discredit was in trying to steal France's iron ore instead of honestly buying supplies and sharing the profits. He remembered reading in a very interesting book entitled *La Question du Fer*, by Monsieur Louis Ferasson, of the Compagnie de Chatillon, Commentry et Neuves-Maisons, prés Nancy (Meurthe-et-Moselle), France, that at the conclusion of the Franco-Prussian War, and in negotiating the settlement terms, the fault that was found by the German Nation was that they had not, in 1870, been advised to seize sufficient of the iron-ore territory with a view to increasing her position in the world, that is by stealing her neighbour's goods. There are many proofs that Germany had always in mind to try and get possession of as much of the iron-ore districts as she possibly could, if not by fair, then by foul means. In the speaker's opinion iron being a common necessity for the world generally, the supplies of this precious material ought not to be in the possession of any one nation. On the other hand, he quite admitted, until happier times arrived, this country must maintain and guard its position, and this need not be in any way

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

detrimental to the adoption of a sound and honest policy which would injure no one. For example, whilst he had every admiration for their friends in the United States, he did not see why this country should be dependent upon them for supplies of iron and steel, seeing that if properly developed, there were ample supplies within the Empire. Most of the chief metallurgical processes had originated in Great Britain, for example those of Dud Dudley, Sturtevant, Darby, Cort, Mushet, Huntsman, Bessemer, Siemens—who, although a naturalised Englishman, had, at any rate, worked out his invention here—Thomas, and Gilchrist, also many others. He thought that this country should bear in mind that the possession of sufficient quantities of iron ore represented one of the most important points of their outlook during the next generation, and would largely determine the progress of increased civilisation of the nation, which is amply supplied with this important natural product. In his opinion, the subject appeared quite important enough for the Government to appoint a special Committee or Commission to investigate and tabulate the sources of their future supplies. It was quite true that they had excellent hematite ore in this country of very high quality, from which they could obtain pig-iron containing not more than ·02 per cent. each of sulphur and phosphorus, not quite equal to the Swedish, but still a valuable and most excellent product. But that would not last long enough, and in a comparatively short time our Empire would have to find sources for supplies of iron ores of high and medium qualities. It was true that Spain furnished large quantities, but that source was not under British control, and he, the speaker, would like to see the Empire more independent of supplies outside its own boundaries. He was sure they had the supplies in the Empire if they would only look round and earmark them. He, therefore, thought it would be very desirable if something could be done in that direction. Mr. Birkett referred to improved processes which would give higher quality and less waste of material having been used during the War. He, the speaker, would only quote from his own experience, that is at the works of his Company, Messrs. Hadfields, Ltd., in Sheffield, because naturally he knew more about them than other people's output. During the War, that is in about four and a-half years, his firm had produced three-quarters of a million tons of high-quality special steels. They had worked under no less than five different processes, namely, the open-hearth, the acid, the basic, the electric furnace, and crucible processes. The steels had varied in tenacity from as low as 20 tons up to those of the highest, 120 tons. This would give some idea of the wide range of production. Moreover, in attaining this output, they had paid special attention to the reduction of waste. With regard to special steels, they had been able to obtain 85 per cent. and in many cases as high as 88 per cent. to 90 per cent. of useable product. He wished to take the present opportunity, as the head of one of the largest makers of special steels in the world, of expressing their indebtedness to the Ministry

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of Munitions. They had heard people grumbling and saying that the Department had often interfered, with unsatisfactory results. In his opinion, on the contrary, the Ministry had done everything they possibly could to help manufacturers, who could not have got through the serious and critical times without their aid. We are thankful that the first Minister of Munitions, our present Prime Minister, Mr. Lloyd George, just in the nick of time had the wisdom to form that Ministry and give it the successful send-off he did. They had with them that evening their friends, Sir William Jones and Mr. W. T. Layton. They knew how much these gentlemen had done for the Great Cause. He was sure that, although the Ministry was gradually being closed down, they would like to send a tribute of respect from the manufacturers of this country to the Ministry of Munitions for the great help they had rendered, individually and collectively, during these memorable times. There was so much to discuss in the Paper, that it was impossible to deal adequately with it in a single evening. He wished, however, to add one other remark, and that was that he had with him a map showing the mineral districts of Lorraine and of the Sarre, which some of those present might wish to examine, illustrating as it did the iron-ore area and the coal regions of the Naboth's Vineyard, to which the speaker had referred, clearly marked out. One could at once see why Germany had cast her covetous eyes on that part of the map coloured green, because it contained such vast quantities of the premier metal of the world, iron. In conclusion, he wished again to offer his tribute of respect to the author of the Paper. He sometimes had written Papers himself and knew that they often represented expenditure of a good deal of midnight oil. He thought the amount of this commodity which Mr. Birkett used must have been very considerable. Such a Paper would be a classic one and of the greatest possible service in future references.

Dr. J. C. Stamp, in seconding the vote of thanks, said that they must all feel that Mr. Birkett had produced a very fine work. As Sir Robert Hadfield had said, it bristled with points of interest upon which they might spend many hours. One could not help feeling from the first cursory reading, that if they read between the lines there was a very strong human element of interest in it. If it could be written in diary form, they would feel that those who had watched this great industry had had many anxious moments and times of doubts and misgivings, and would appreciate how wonderful it was that they had got through. Some of them were inclined to think that one particular thing which was in their minds had been the critical feature of the War. It was sometimes ships, at other times food, or supplies of tungsten and such things; then it had fluctuated until at another time it was man-power. He was sure that they would see from the Paper that sometimes it had been the question of pig-iron and steel; and if the story of the War could be written as a diary of the "critical spots," and the experience of those

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

responsible, and their secrets, which had been wisely hidden from the rest, could now be revealed in chronological order, it would be a story of more than usual interest. Mr. Birkett had indicated that the industry in this country relatively to the rest of the world was losing its ground. He hinted that it was not a decaying industry by any means, although, as compared with the gigantic strides which America had made in the twenty years before the War, its steps were quite modest. Still, those steps were quite certain and sure in the direction of progress. He had computed roughly that despite all appearances that one would get from the position relative to the world position, there was a very real progress in the industry before the War. From the time of great depression in the nineties, say, twenty years—probably the number of separate firms engaged in the industry had increased between 40 and 50 per cent. The profits had certainly increased 150 per cent.—that was from 100 to 250; and the average profits per unit or firm or company probably in the neighbourhood of 70 to 80 per cent. There was no sign there of a decaying industry. They had a glimpse of the features of the industry in the census of production which they had not had before, in the section devoted to the earlier stages. There was a total value added to the product of some 30 millions, of which he thought something under one-third would be pure profit, and the rest would stand for depreciation and wages and other similar charges. They were interested, of course, in asking the question, seeing that this industry in 1914, like other industries, was rapidly dropping in its prosperity, whether it was merely sharing in a general fluctuation in world trade, or whether the War actually arrested a permanent decline in the iron and steel trade of this country. Mr. Birkett had pointed out in the Paper, that at the end of 1913 people were already forecasting a depression in the industry, and their forecast was borne out because there was a decrease in the production; and if one could look at profits as a test of prosperity—and he supposed in the long run they were more concerned with that than even output and price—he believed the decline was very much more striking. The decline in price, taking the two specimens given to them, was about 15 per cent. in Cleveland iron, and 10 per cent. in rails, or an average through of 13 per cent. There was a decline in the quantity of some 13 per cent. What would they expect from a combination of those two declines as the decline in profit? He referred to figures he had put in before the Society two years before on the effect of the fluctuation of trade on profits, in which he had tried to analyse the relative effects of quantity change and price change. Taking a series of industries over a long period of years, he had tried to get out the effect brought about by increases in quantity or decreases in quantity on the resulting profits, and also the effect of increase or decrease of prices upon the immediate profits resulting. Taking the case of coal, though there were certain important differences, it was the nearest analogous case, it was found that a change in quantity made about the same, or

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

slightly more, proportionate change in profits; that was to say, 1 per cent. increase in output would give 1 per cent. in profits with a slight addition, as one would expect from abstract or general *primâ facie* reasoning. But the increase in price had an influence on profits of something like three times the amount, and decrease also something like three times the amount. If they looked at those figures, they would see that there was a decrease in quantity of about 13 per cent. He had had exceptional opportunities of watching the profits of that industry on a wide scale in the years from 1912 to 1919, and he knew that the profits in 1914 dropped about 50 per cent. If they allowed a *pro ratâ* drop for the 13 per cent. drop in quantity, and took 13 from 50, they would have 37 per cent. net to account for as the drop due to the price. If the price dropped 12 per cent., that 12 per cent. drop in price gave a 37 per cent. drop in profit, or three times as great, which was similar to the conclusions arrived at in connection with some of the other fluctuating industries. Of course, this was an industry with fluctuations of price not so great as those in industries such as cotton. It might interest them to know that he had had occasion to work out what he called a fluctuation index for a large number of raw materials; and taking into account both the frequency of the change in price and the range of the fluctuation—the distance to which the fluctuations went compared with the average price—he got an index for pig-iron of 175, as compared with tin, 216, or with raw wool, 100. There were plenty of raw materials which fluctuated more than pig-iron, particularly cotton, or had done over a long series of years. But this industry was peculiarly susceptible to very rapid changes in its profits, as they would see from the instance he had given. Mr. Birkett had put in all the necessary reservations as to the results of analysing and adding together a few published balance-sheets. As they all knew, published balance-sheets were a very poor reflex of real conditions, and dividends were a poor reflex of profits. There were various ways known to business-men and accountants of, should he say, equating accounts, so that a good year did not seem quite so good, and a bad year did not seem quite so bad. So that if they examined the figures Mr. Birkett had put in, they would see that while the industry had made a rapid increase in its assets, had considerably increased its capital, there was no very wide fluctuation in the profits. His own view was that the profits from 1914 to 1915 increased by some 14 or 15 per cent., which was in some way comparable with the indication given in output and price. But from 1915 to 1916 the profit jumped up 100 per cent., and from 1916 to 1917 it dropped. They did not see any increase in the total given by Mr. Birkett, and the reason they would not do so was, because he thought they were conserving their resources for the vast capital requirements as fast as the profit could be made to do it, because there were hardly any public issues, and the only possible source was Government loans or the profits as made. He asked why was there such an extraordinary position

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

as between 1915 and 1916 when the profits doubled, and 1916 and 1917 when they hardly held their own with the previous year. He thought the facts were these: that in 1917 control and the Munitions Levy became substantial and real, and took the largest part (with the Excess Profit Duty) of the increased profit, and there was control in the prices, and Mr. Birkett's Department became more effective. Also, the increased wages began to overtake the profits. One might examine in detail a great many of the features of the Paper, and it was almost inexhaustible. But there was one thing he would wish to see added to it, if Mr. Birkett could find the time to do it. In conclusion, he spoke of the necessity for going carefully into unexploited deposits of iron ore in the United Kingdom, and Sir Robert Hadfield had also referred to it as an important matter. As one unacquainted with the details of the industry, the question he would like to ask was: what was the effect of high prices, imposing unexampled demands, on searching out and exploiting areas which had either been abandoned or not used, because they were previously unprofitable? He had heard talk of scraping the fields of Northamptonshire for iron ore, so desperate was their need, and wondered what truth there was in it. They were all interested, from a pure point of economic theory, in the economic effect of taking up hitherto unprofitable sources through changes in demand. If Mr. Birkett could add something upon that to the Paper, it would be very valuable.

Dr. Hatch said that Mr. Birkett had covered so much of the ground and had dealt with the subject so exhaustively, that it was really a very difficult Paper to discuss, especially in the short time that they had at their disposal. He could perhaps answer the question which Dr. Stamp had put about iron ore. Some of them knew that the phosphoric deposits in Yorkshire, Northamptonshire, Lincolnshire, and Oxfordshire had contributed very largely to furnishing iron in this country during the War. He had some figures which would perhaps interest them. The output of iron ore which came almost entirely from those deposits was increased over the 1916 production by 45,000 tons a week, which was equivalent to $2\frac{1}{3}$ million tons per annum, which was quite considerable. It reached its maximum in the first half of 1918. Mr. Birkett had been good enough to refer to his (the speaker's) book on the Iron and Steel Industry of the United Kingdom under War Conditions. He might say that that was written on the invitation of Sir John Hunter. It showed the significance of the part played by the Iron and Steel Department of the Ministry of Munitions, with the whole-hearted assistance of the great iron and steel firms of this country in winning the War. As they knew, towards the end of 1916 the shortage of shipping tonnage had become acute, and foreign supplies of raw materials, iron ore, manganese, and so on, were being cut off: the obvious remedy was in the development of their home resources. The supply of hæmatite in this country was

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

strictly limited and could not be increased to any extent, so they had to fall back upon the low-grade phosphoric iron ores. That, of course, meant a change over from the acid to the basic process; and putting through this far-reaching metallurgical change was one of the great tasks of the Iron and Steel Department. The "basic iron programme," as it was called, involved an immense amount of organisation, and that became the work of the Home Ore Supply Committee, formed by Sir John Hunter at the end of 1917. The different sections of that Committee saw to the provision of an adequate supply of different iron-making materials—iron ore from the low-grade Jurassic deposits which were so extensive in this country. In North Lincolnshire there was a bed of iron ore right at the surface, 25 to 30 feet in thickness, with actual working faces on it over a mile long. The sections of the Committee concerned provided the companies working those quarries with the necessary mechanical appliances, steam shovels, and different kinds of excavators and conveyers, and by those means the output was very largely and rapidly increased. The chief difficulty, of course, was the provision of labour; and ultimately the needs of the Army prevented the "basic programme" being carried out in its entirety. Mr. Birkett had pointed out that the increase in basic pig-iron production was made at the expense of forge and foundry makes. The total production of pig-iron never reached the record of 10 millions in 1913. Steel reached its maximum production during the War; but there again, as Mr. Birkett had also pointed out, that was done by very largely increasing the use of scrap.

On a vote of thanks being put to the author, it was carried unanimously.

Mr. Birkett, in reply, said that he could only thank them very much for the generous way in which the Paper had been received. He thought it was Bishop Creighton who had once said that when he particularly wanted to get up a subject he used to ask a friendly publisher to commission him to write a book upon it, and when after he had been at the National Federation of Iron and Steel Manufacturers for a short time, Mr. Layton was invited to write a Paper on the Iron and Steel Trades During the War, he seized the opportunity as a good means of familiarising himself with the intricacies of the iron and steel trade. He had been very glad to hear Sir Robert Hadfield refer in the terms he had to the Iron and Steel Department of the Ministry of Munitions; because his duties at the Ministry of Munitions had brought him into touch with many different Departments, but he must say there was not one in which the cordiality and friendliness were greater than in the Iron and Steel Department. Dr. Stamp had referred to the "human note" running through the Paper, and that was quite true. All the time he was reading it, he remembered all the difficulties that Sir William Jones, Colonel Wright and others connected with the Iron and Steel

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Department had had. He had been very glad to read the Paper to the Society, because the preparation of it had done him an immense amount of good.

The following remarks which, owing to the shortness of the time available for discussion, could not be made at the meeting, have been forwarded to the *Journal* by Mr. Wm. A. Stevens, of the Iron and Steel Trades Confederation Statistical Department:—

"There are one or two points raised in Mr. Birkett's very able "Paper which I should like to deal with from the workers' point of "view

"The first is that of the profits of the industry. On this "Mr. Birkett supplies figures for the years from 1906 to 1918. He "shows that during this period net profits had only increased by "100 per cent., and from 1913 to 1918 the increase was only 30 per "cent., dividends being increased only by ·4 per cent. The com-"parison with the year 1913 can hardly be accepted as a fair one. "That year was an exceptionally prosperous one for the trade, "reference to the figures of preceding years alone will prove that, "moreover, in the table given, the whole facts are not disclosed. "What were the profits before deduction of the Excess Profits Tax? "They are the true net profits and not merely what remains after "all obligations to the State have been fulfilled. If these were "included, the percentages shown at the foot of the table would be "materially affected. Again, the figures quoted cease at 1918, "doubtless because later figures are not in all cases available, but "during 1918 and 1919 there was a great reduction in those large "reserves which had been accumulated during the War. We have "no indication in the Paper as to who are the fourteen firms whose "financial accounts are quoted, but I find that twelve of the principal "firms in the trade distributed in those two years bonus shares "equivalent to dividends ranging from 17½ per cent. to 400 per cent. "What will be the effect of this large inflation of nominal capital? "Are somewhat smaller dividends to be declared that we may be "impressed with the notion that profits have fallen or will the rate "of dividend be maintained and large reserves avoided?

"I will pass on to another point. In his summing up, Mr. Birkett "suggests the causes for the drop in production. To one cause "suggested I desire to take strong objection, that is, that it is the "effect of the introduction of the eight-hour day. It may be that "the writer of the Paper has sources of information not available "to me, but if complaints or statements to that effect had been "made they would have come under my notice. I know of no "such statement made by any responsible person, on the other hand, "there have been very definite statements to the opposite effect. "And this was to be expected. The experience of many years' "working under the eight-hours' system has gone to prove the "certainty of greater output resulting from the change. It will be "claimed that plant and methods have improved, and that the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

"result is due rather to that cause, but those improvements could "only have accelerated production if the human factor was in a "condition to stand the increased strain. The greater physical "energy demanded, the freshness and vigour required, were due to "the shorter hours of labour and the longer period allowed for "recuperation. The higher-paid men, who under the eight-hour "settlement of 1919 gave up a portion of their earnings, undoubtedly "look to an increased output as the means of recouping them for "their loss.

"Undoubtedly, the chief cause of lessened production is the "shortage of coal and coke. This is due to the dislocation of the "railway service and to the destruction of wagons by overloading "and continued use without necessary repairs during the past five "years. The Iron and Steel Trades Confederation have been "collecting information, and from the 300 to 400 replies received "it is proved that in the areas chiefly affected there is a loss of "production of 25 to 30 per cent., due to this cause alone. Furnaces "are standing idle and mills are closed down, new plant capable "of adding largely to the supplies so much needed cannot be started. "Great stocks of material are stocked to the danger of life or limb "of the worker, and at great extra cost to the manufacturer for the "extra handling involved. Loss is not only due to the shortage "of coal, but to the fact that the quality supplied is frequently not "suitable for the purpose required. Steam coal only can be obtained "where gas-producing coal is wanted and *vice versa*.

"In a letter recently addressed to *The Times* by the chairman "of the Transport Committee of the National Federation of Iron "and Steel Manufacturers and by the Director of the Federation, "there is given a list covering a period of six weeks in November "and December last of the wagons loaded and empty which the "railway companies were not able to accept. The numbers refused "range between 45 and 316 per day, the average being over 150 "per day.

"I think the foregoing will suffice to show that the loss of "production is not due to the worker, but to causes which he is as "anxious to remove as are the employers themselves, for he is as "great a loser by their existence."

The following Candidates were elected Fellows of the Society:—

Oscar Berry, F.C.A.
R. H. Foà.
P. Das Gupta.
T. B. Johnston.
Charles J. Ralph.
May Saxton.
H. Cope West.
Lt.-Col. Sir A. T. Talbot, K.C.I.E., C.S.I., D.S.O.

Corporate Representative.

Gordon Selfridge (*representing* Selfridge, Ltd.).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Fertility of Various Social Classes in England and Wales from the Middle of the Nineteenth Century to 1911.

By T. H. C. Stevenson, C.B.E., M.D.

[Read before the Royal Statistical Society, April 20, 1920, the ex-President, Sir Bernard Mallet, K.C.B., in the Chair.]

The Census of 1911, by its inclusion of questions as to duration of marriages and to numbers of children born and surviving, has provided material on a national scale for analysing the fall in fertility since 1876 by social class, occupation, birth-place and locality of residence. Measurement of the fertility of the various occupations in the year 1911, and of social classes deduced from them, was made from the birth registers of that year, and can be made for any other Census year in the same way. It would thus be possible by working backwards to trace from this source the changes which have occurred. But the labour involved by such a course would constitute a great difficulty, and both on this account and because the Census returns of the fertility of husbands and wives enumerated on the same schedule include many particulars with which it is desirable to relate fertility, and which are not recorded in birth registration, they provide the more suitable material for such an inquiry.

They enable us, for instance, to compare not only the rates at which children are born to various sections of the community, but also the varying extents to which these sections successfully rear children. In the one case we may speak of total and in the other of effective fertility, the latter expressing the combined result of fertility and child mortality. Both measurements are of importance, though, as a rule, differences in fertility greatly dominate those in mortality.

The relationship of child mortality to fertility is both close and complex, a fact which causes difficulty in the interpretation of the differences found to exist between the social classes in regard both to total and to effective fertility. When families are classified by the age of each parent at marriage and by the duration of the marriage, it is found (Table 15, vol. xiii, part i of the Census Report) that for any given duration and age of parents at marriage child mortality

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

rises progressively with the number of children born to the marriage. Thus, where the wife was aged 15–19 years at marriage and the marriage had lasted 15–20 years, it was found, taking all ages of husband at marriage together, that child mortality rose from 117 per 1,000 born in 1-child families to 368 in families of 12, and 429 in those of over 12. For wife's age at marriage, 20–24, the range was from 102 to 339 and 407; for wife's age at marriage, 25–29, from 99 to 345 and 421, and so on.[1] There is no doubt as to the closeness of the correlation between child mortality and number of children born, but its interpretation presents difficulties.

It will be shown that both fertility and child mortality are higher for the lower than for the middle and upper classes, but how far is their fertility higher because of higher child mortality, and how far their child mortality because of higher fertility? It seems probable both that in many cases children die because many are born, and that many are born because comparatively few survive.

Moreover, we must remember that in comparing the child mortality of small with that of large families, we are not dealing with homogeneous material throughout, even though our data are derived in both cases from the whole population. For the small families must include proportionately more of those classes who live under conditions favouring low mortality, and the large families of the classes exposed to the conditions producing high mortality, apart altogether from the size of the family. It seems probable, therefore, that Table 15 of the published Census Report, from which the above examples are quoted, overstates to some extent the relationship existing between size of family and child mortality. It would be interesting on another occasion to tabulate the facts in this way for some large homogeneous group of the population, such as miners or agricultural labourers, but at present our only

[1] The increase of child mortality with size of family makes it misleading to compare the mortality of first, second, third, etc., born children without reference to the size of the families to which they belong. For evidently tenth born children, for instance, are all subject to the conditions making for high mortality which characterise very large families, whereas a large proportion of first born children belong to small families. This was pointed out by M. Lucien March in his paper on "Factors of Mortality" published by this Society in 1912. His material enabled him to show that when the comparison was restricted to members of families of a given size, the large increase in mortality from first to last born which such a comparison otherwise brings out disappeared; and further to establish the interesting fact, that the mortality, within a year or two of their birth, of the first-born of large families is much greater than that of small. The English census material does not permit of checking the two latter results for our population.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

tables distinguishing families of varying sizes relate to the whole population.

It seems probable, however, that even a table relating to miners only would show a very high degree of correlation, and that any difference in social class between the small and large families in Table 15 can account for but a small fraction of the differences in mortality shown. It seems to me likely both that large families promote high mortality and that high mortality promotes large families; but I can suggest no means of disentangling the one influence from the other, or of measuring their separate effects.

It is true that the excess mortality in miners' families over that of the middle classes is very large from the very outset of married life, and indeed diminishes with duration. This diminution is presumably due to greater excess of mortality amongst miners' children in infancy than in later childhood, but it might be argued that as the excess is at its maximum at a period when no families can be large, large families cannot be the cause of high mortality, and that, therefore, high mortality is presumably the cause of large families. But it may be the rate at which the children are born as much as the actual number born which counts, and this rate is very much in excess for miners from the outset of married life. This, indeed, can be shown from the accompanying diagram, derived from Table 15, from which it appears that for any given number of children born (in excess of 1), the mortality is very high indeed for the first duration recording that number of births, and rapidly declines, with increasing duration, to a minimum, after which it slowly rises again with further increase of duration owing to the longer exposure of the children to the risk of death.

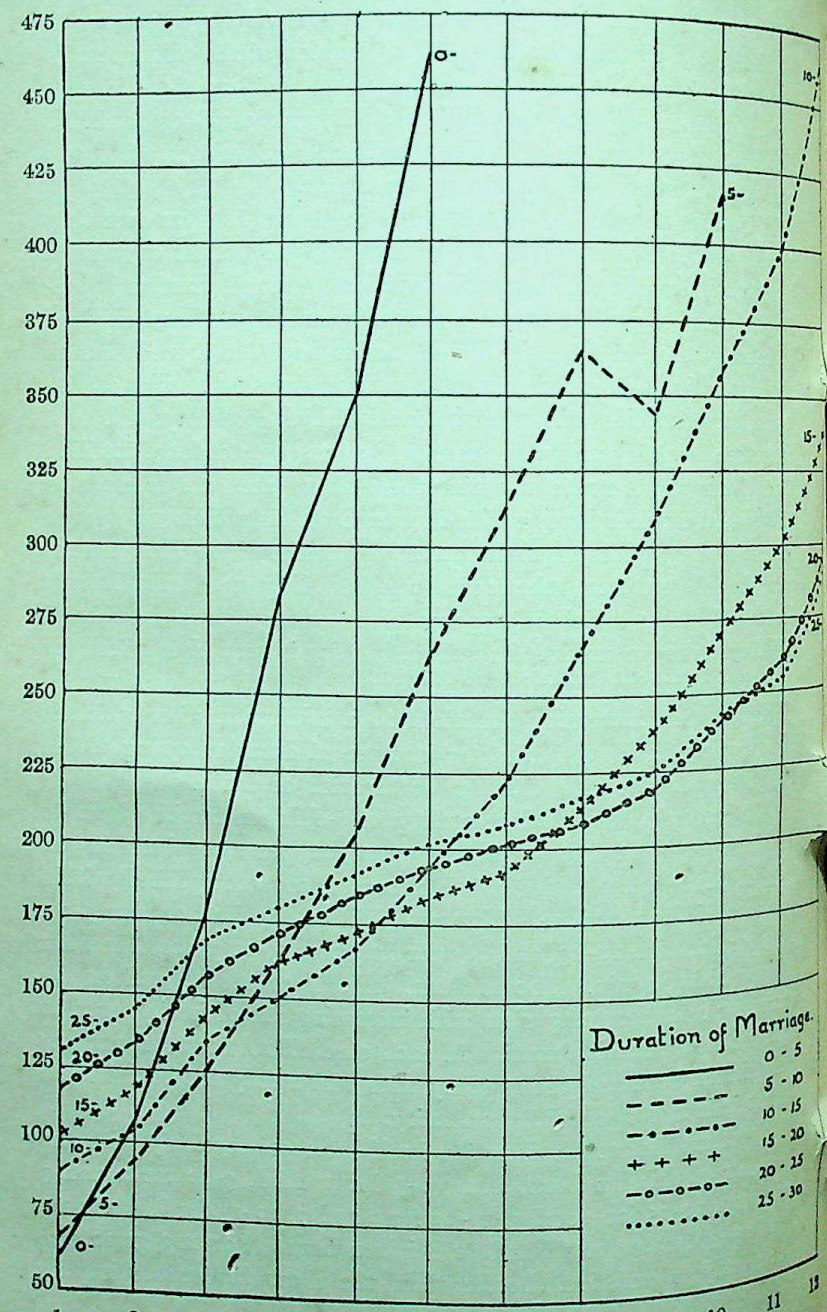
For example, the child mortality in 6-children families born to mothers aged 20–24 at marriage was 462 per 1,000 born in the 13 instances where this feat is recorded as accomplished within 5 years of the marriage. This rate falls to 263 for duration 5–10, 193 for duration 10–15, and 183 for duration 15–20 years, thereafter slowly rising again. The number, indeed, counts as well as the rate, for child mortality rises with increasing size of family, even at the most favourable duration in each case. Both the total number of children born and the rapidity with which they are born have a great influence upon their mortality.

The most favourable duration itself increases regularly with the number of children born, being 0–5 for 1 child, 5–10 for 2 and 3 children, 10–15 for 4 and 5, 15–20 for 6 and 7, 20–25 for 8, 9 and 10, and 25–30 years for 11 and 12 children born. For any given size of family a duration shorter than the most favourable implies

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CENSUS OF ENGLAND AND WALES, 1911.—*Mortality of the children of women married at 20–24, classified by duration of marriage and by number of children in family.* (See Census Report, vol. xiii, part i, Table 15.)



CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

unfavourable rapidity of births, while a duration longer than the optimum implies increased mortality owing to longer exposure to the risk of death.

But whatever their relationship of cause and effect the closeness of the connection between fertility and mortality is of itself of importance in interpreting the records of fertility and child mortality in the different strata of society. When we say that in 1911, the infant mortality in the families of solicitors was 41 per 1,000 born, and of doctors 39, as against 162 for coal miners and 196 for costermongers, we shall have to bear in mind the fact that at the same date the average numbers of children born (in families where the mother was aged less than 45 at Census), were 1·73 for solicitors and 1·69 for doctors as against 3·60 for coal miners and 3·45 for costermongers. For these families of continuing fertility the child mortality, in the common case where the mother married at 20–24, may be shown from Table 13 of the Census Report to have been, in the whole population, 72 for 1-child families, 104 for 2-child, 137 for 3-child, and 160 for 4-child families. On these figures the child mortality to be expected for the professional families quoted is about 95, and for the miners 151.[1] Evidently a good deal of the difference between the infant mortality rates quoted for these occupations is bound up with the difference between their fertilities. The child mortality rates quoted are for children of all ages, and no corresponding infant mortality rates in families of varying sizes can be given for this country. (They would be easily obtainable under a revised registration law, and should throw additional light upon the matter, as they would enable us to measure the excess mortality of miners' over doctors' infants in families of equal size.) But these "expected" rates, 95 and 151, may be compared with the corresponding child mortality rates for occupations derived from Census material. These are, for solicitors, 67; for doctors, 72; for coal-miners, 215; and for costermongers, 231 dead per 1,000 children born to wives under 45 years of age at Census. The difference is, of course, far greater than that between 95 and 151. But these figures show the importance of the average size of family in making comparisons of child mortality, as well as, conversely, of mortality in comparing fertilities.

And it is not only in comparing the infant or child mortality

[1] This is only a very rough approximation, for it can be shown from Table 13 that the child mortality in families of varying size but averaging 2, 3, 4, etc., children is greater than that in families of these exact sizes. But the figures quoted serve to give an idea of the difference in mortality between families of the two contrasted sizes in the whole population.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of one class with that of another that allowance must be made for differences in the sizes of the average families compared; they are necessary also in comparing one period with another. In view of the figures already quoted, it is evident that the decline in infant mortality during the present century is closely bound up with the decline in the birth-rate; and it is, therefore, all the more discreditable to the last quarter of the nineteenth century that during it the rate of infant mortality did not decline, or even tended to rise, although the birth-rate was steadily falling.

Notwithstanding the closeness of the relationship between fertility and child mortality which the Census Returns show to exist under the average conditions of life prevailing in this country, they also prove that this relationship does not always apply as between different sections of the population. Although mortality is generally highest in those occupations and in those areas where fertility is greatest, this is not always the case. Figures quoted later show that although the fertility of agricultural labourers is 37 per cent. in excess of that of textile workers, the mortality of their children is less by 35 per cent. The same thing may be noted in national comparisons. High fertility and high mortality generally go hand in hand, but exceptions are met with, as in the case of Connaught, where the fertility of marriage is remarkably high, but infant, and doubtless child, mortality exceedingly low. The approaching Census may afford the opportunity of comparing child mortality with size of family amongst selected sections of the population. If so, we may probably expect to find that child mortality increases with size of family amongst mill hands and agricultural labourers, as well as amongst the population generally, but that the rate of mortality for any given size of family is very much higher in the case of textile than of agricultural workers.

Comparison of the fertilities manifested by the various sections of the population has to meet the difficulty that some of these are much more favourably constituted than others for high fertility and low child mortality. Other things being equal, a section whose marriages have been made in youth, when female fertility is at its maximum, and have lasted long, will have more children per family than another in whose case these conditions are reversed. And the proportion of children dead to the total born manifestly depends on the duration of the marriages (Census Report, Table 3). It also depends on the age of mothers at marriage, as may be seen from the same table, which shows that for every duration of marriage child mortality is at a maximum in the families of mothers married under 20 years of age and at a minimum in those where the mother

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

married at about 25–30, the differences being very considerable. The following examples of this are taken from Table 15, where the facts are shown for grouped durations and ages at marriage.[1]

Child mortality per thousand born.

Duration of marriage in years.	Age of wife at marriage.				
	15–19.	20–24.	25–29.	30–34.	35–44.
0–2	106	79	63	66	87
2–5	136	105	85	91	111
5–10....	172	139	120	129	153
10–15....	200	173	155	167	190
15–20....	217	194	180	195	206
20–25....	235	212	200	212	219
25–30....	247	225	210	221	222

These differences have to be allowed for just as differences in age in comparing the mortalities of different populations, and a similar method of standardisation has been employed for doing so. The standard used is one million families divided as in the total population into sections of similar duration of marriage and wife's age at marriage. The rates of total and effective fertility established for the corresponding sections of the population under examination are multiplied into these sections of the standard million and the sums of the results form standardised total and effective fertility rates per million families. Standardised rates for all marriages of each duration whatever the age of wife at marriage and for all of each age at marriage whatever the duration, are easily obtained at the same time. The former are of special historical importance.

The standardised child mortality rate is easily obtained from the standardised rates of total and effective fertility. The difference between the number born and the number surviving to the standard million in any instance is evidently the number of deaths of children which the standard population would have suffered under the

[1] The relationship as stated holds goods with great constancy when the comparison is made without regard to number of children in family. But when it is restricted to families of equal size the mortality of the children of the oldest mothers is almost uniformly highest. This fact, which is partly due in many instances to their being of greater average age than those of women married younger (*i.e.*, in cases where the children of the older married women are necessarily of a certain minimum age while those of the younger may include new-born infants) is outweighed when families of all sizes are compared jointly by the higher mortality accompanying the larger families of the younger married women. But whether the comparison is made with or without distinction of size of family, mortality is found to be generally lowest in the families of women married at 20–30.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

operation of the total and effective fertility rates experienced by the population under examination; and the ratio of these standardised deaths to the standardised total births yields the standardised rate of child mortality. Thus the same standardising process serves both for fertility and child mortality.

The method described evidently affords the means of measuring and comparing the fertility experience of any sections of the population throughout the whole period represented by any considerable number of marriages still in existence in 1911, *i.e.*, back to the decennium 1851–60, from which about 50,000 marriages survived in 1911. The standardised fertilities for different duration periods already referred to show the results yielded by marriages of corresponding dates, and enable these to be compared for any desired sectional populations with allowance for their differing opportunities of fertility arising from differences of practice in regard to age of wives at marriage. It depends, of course, upon the point of view from which the comparison is instituted whether this allowance should be made; but when dealing with the fertility of marriage it is evidently necessary to take marriages as we find them and allow for the fact that in some sections of the community women marry at more naturally fertile ages than others. The marriage age groups used are 15–19, 20–24, 25–29, 30–34, and 35–44.[1]

The next point after fixing a method of procedure is evidently to select suitable sections of the population to which to apply it; and the selection of groups to represent the social classes proved no easy matter, nor can it be claimed to be wholly successful. The Census makes no record of social position, but it does record various facts from which this may be inferred with more or less success. The number of domestic servants kept was rejected as applying to too small a section of the population, though on another occasion a useful study might be made on this basis of the distribution of fertility within the servant-keeping class. But the applicability of this test is decreasing owing to the advent of the daily servant, who does not figure on her employer's schedule, and other related causes.

It was hoped that the size of tenement occupied would have provided a useful criterion, but this test has proved disappointing. The tables of families in different sized tenements show clearly that choice of tenement is governed very largely by requirements as well as by means. Class for class there is a constant tendency for the larger families to occupy the larger tenements. This is

[1] These ages at marriage are in all cases central ages, representing the centre of a two years range in marriage age as deduced from Census age and duration of marriage, each with a range of one year.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

shown for instance by the fact that for all the larger tenements (from about five rooms upwards) the proportions of couples less than ten years married are below the general average, and those of longer married couples above it. The fertility of the populations living in three rooms or less is increased on standardisation (because of the large proportion of recently-married couples included), whereas, as we shall see, that of the corresponding social class is decreased (because the lower social classes marry young). This shows very clearly how unsuited the inhabitants of small tenements are to represent the fertility conditions of the corresponding social classes.

And a family which is large, because the parents are fertile, is driven towards the larger tenement just as that which is large because the marriage is of long duration.

This is shown, for instance, by comparison of the crude and standardised fertilities of families occupying tenements of ten rooms and over, about 86,000 in number, with those of families of the first social grade as determined occupationally, about 395,000 in number. (These numbers both apply only to families where the wife's Census age was under 45.) The numbers show that the average social status of the first group must be higher than that of the second, as may also be seen from the occupations included in the latter. Yet although, as will be shown, all the evidence points to decrease of fertility with ascent of the social scale, the fertility of the 86,000 is higher than that of the 395,000. The rates are as follows :—

	Tenements of 10 rooms and over.		Social Class I (occupational basis).	
	Born.	Surviving.	Born.	Surviving.
Actual average family	2·41	2·18	1·90	1·68
Standardised average family	2·28	2·06	2·13	1·87

The large excess in crude fertility of the large tenements population is partly due to its advantage, and to the disadvantage of Social Class I in respect of the combined conditions of age at, and duration of, marriage making for fertility, as is shown by the decrease of the one rate and the increase of the other on standardisation ; but it is also due in part to selectedly high fertility of the population in large tenements under similar conditions of duration and marriage age, this portion of its advantage remaining after standardisation. Here, again, as at the other end of the scale, the unsuitability of the tenements group to represent its social class as to either duration of marriage or fertility when married is very apparent.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

When the attempt to use size of tenement as an index of social position had thus proved disappointing, it seemed best to fall back upon the gradation by occupation which was used in tabulating fertility and infant mortality from the births registered in 1911. This divided the population into eight social classes, for the detailed composition of which reference may be made to Table 28A of the Report of the Registrar-General for 1911. Of these classes, I–V are in descending order of the social scale, Class I including the upper and middle classes (with a fairly wide interpretation of the latter) and Class V unskilled labour. Classes VI, VII and VIII consist of textile workers, miners, and agricultural labourers respectively. This classification is no doubt open to criticism on various points of detail, but it has been thought best to adhere closely to it in order to obtain comparability with the published birth registration results.

The result of tabulation on this basis resembles that already published for the births registered in 1911 in showing fertility to be closely correlated with social status. Dealing first with families of continuing fertility only, *i.e.*, where the wife was under 45 years of age at Census, we find that fertility and child mortality both increase downwards along the social scale, and that this remains true, though the range of variation is somewhat reduced, even after standardisation to allow for later marriage amongst the middle classes. The total and effective fertility, and the child mortality, of these families is found to average as follows :—

	Social Class.							
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
	Children born per 100 families.							
Crude rates	190	241	279	287	337	238	358	327
Standardised rates	213	248	278	285	317	247	348	320
	Children surviving per 100 families.							
Crude rates	168	205	232	237	268	191	282	284
Standardised rates	187	211	231	236	253	197	274	278
	Children dead per 1,000 born.							
Crude rates	116	147	167	173	206	200	213	131
Standardised rates	123	150	167	173	202	203	212	129

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

All the rates shown increase from Class I to Class V and all, except effective fertility, are at a maximum for miners. These statements, too, it may be remarked, apply with few exceptions to the separate age at marriage and duration of marriage groups, singly and in combination, as well as to their summed results. The effective fertility of agricultural labourers is a little higher than that of miners owing to low child mortality. (But as miners marry much more than agricultural labourers the effective fertility of miners as a class must be the highest of those compared, though that of married miners is not.) Standardisation lessens the differences in all cases though it never suffices to abolish them, thus showing that the classes which are most fertile when married at any given age also provide for themselves, by early marriage, the greatest opportunity of fertility. Whether they also marry most is another matter, outside the scope of an inquiry into the fertility of marriage. Table 20 of the Census Report on occupations shows that the middle classes marry less than the average, the proportion of males aged 35–45 married in the professional classes, including their subordinate services, which increase the rate, being only 75.3 per cent. as against 81.3 for all occupied males of the same age. But the same table shows that in many of the lowest grade occupations the proportion of men returned as married is comparatively small. Apparently the most married class consists of workmen who can count on fairly steady employment. These differences have to be borne in mind in interpreting the results given above, for the defect in the fertility of the middle class when married is increased, firstly by the fact that they marry later, and secondly by the fact that they marry less, than the average.

As against this it is offset to some small extent by lower mortality of the children born, but the table shows that this factor has only a minor influence. It does not suffice in any instance to change the order amongst the five graded classes, merely reducing the differences for effective a little below those for total fertility.

The expression of these differences has been found to involve a difficulty. It was sought to measure them by expressing the various rates as percentages of those for England and Wales. But this standard proved to be considerably higher for women married early than for those married later in life because of early marriage in the more fertile classes. This inequality of standard leads to anomalies in comparison which it has been sought to avoid by constructing from the general experience a standard purged of this element of inequality. This was done by ascertaining what would be the fertility of all classes jointly in each age at marriage and duration

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

group if the wives in each social class were distributed over these groups as were the wives in all classes jointly. This calculated standard differs from the recorded England and Wales rates in affording a measure of the comparative excess or deficiency in fertility of different ages at marriage which is not obviously prejudiced in favour of one as against another.

When compared with this standard it is found that the fertility deficit of Classes I and II increases regularly with duration from 2–5 to 20–25 years' duration. This is, of course, what might be expected on the supposition that the infertility of these classes is largely deliberate, and the family limited after it has attained the desired dimensions. But the increase is not of such a degree as to be at all decisive in favour of this view; and the corresponding increase of comparative fertility with increasing age of wife at marriage, which by parity of reasoning might be expected in the less fertile classes, is very slight in the case of Class I and absent in that of Class II, while for some reason it is best manifested by the most fertile classes, miners and agricultural labourers.

The reason for the exclusion of duration 0–2 years from the rule of increasing Class I and II deficit as duration increases is of interest. The fertility of all classes at this duration is increased by the inclusion of births conceived before wedlock, but this increase is greatest in the most fertile classes. Classes I and II are, therefore, at a disadvantage from this cause, and so do not compare with the standard as they otherwise would do.

Marriages returned as of less than one year's duration per cent. of those returned as of 1–2 year's duration.

Age of wife at marriage.	0–1 per cent. of 1–2.	Age of wife at marriage.	0–1 per cent. of 1–2.	Age of wife at marriage.	0–1 per cent. of 1–2.
15	25	25	78	35	83
16	28	26	83	36	88
17	31	27	78	37	69
18	50	28	85	38	87
19	53	29	76	39	67
15–19	50	25–29	80	35–39	79
20	63	30	95	40	98
21	70	31	77	41	63
22	72	32	83	42	83
23	75	33	78	43	76
24	77	34	78	44	73
20–24	72	30–34	83	40–44	79

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The proof of this statement is to be found in the fact that the number of marriages of less than one year's duration is obviously and grossly understated, evidently with the object of adapting duration to size of family. This may be seen from Table 2 of the Census Report (see previous page), from which the statement of marriages of less than one year's duration as a percentage of those of 1–2 years' duration is derived.

The interpretation of these ratios is obvious, and is in close correspondence with the facts regarding ante-nuptial conception tabulated from registration records in Australia. Where the wife is very young at marriage few marriages are returned as of less than a year's duration, presumably because of the existence of children in the great majority of such cases. The overstatement of duration rapidly decreases with increasing age of wife to 26 years of age, after which it remains almost constant. After the first year's duration about as many marriages seem to be transferred to the higher as brought in from the lower group in each case, for the numbers remain fairly uniform.

In order to examine the effect upon the fertility recorded for the social classes of this overstatement of the duration of early marriages, it must be measured in terms of marriages of less than two years' duration, the first group distinguished. These are compared with all marriages of less than five years' duration in the following statement of proportions per thousand :—

Age of wife at marriage.	Social Class.								
	All classes.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
15–19	309	302	304	303	304	279	365	337	337
20–24	353	372	357	350	351	335	373	354	374
25–29	380	403	378	382	374	362	377	361	383
30–34	382	404	380	387	376	358	382	360	401
35–44	386	404	392	389	384	364	377	378	375
15–44	363	391	368	363	359	339	375	354	375

On the basis of the marriages registered during the five years preceding the Census this ratio should be about 40 per cent. Class I with 39.1 per cent. closely approximates to this figure, which is further and further departed from down the social scale to Class V, where the proportion is only 33.9 per cent.

When age at marriage is distinguished we find, in accordance with the facts previously noted, that overstatement of duration is at its maximum in all classes at the earliest marriage ages, and progressively decreases with increasing age of wife at marriage up to

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the age 25–29, after which there is little change. The overstatement seems to be equally great in all five graded classes for the youngest brides except that here also Class V shows to a slight disadvantage, but it is to be remembered that marriage at this age is rare in Class I and frequent in Class V. The comparative absence of overstatement of duration in the case of early marriages in Classes VI–VIII, textile workers, miners and agricultural labourers, is curious.

In tabulating these figures it has been found necessary to include wives of over as well as under 45 at Census, as the proportions for wives aged 35–44 at marriage are much too high if comparison is restricted to the latter. This is because those of 0–2 years' duration are less decreased in number by the age 45 being exceeded than those of 0–5 years. In order to compare with other marriage ages, therefore, marriages of completed fertility have had to be included.

TABLE I.—*Fertility of marriage distinguished by social class, duration of marriage, and age of wife at marriage.*

Date of marriage.	Duration of marriage in years.	All classes.		Social Class.							
		Occupied and unoccupied.	Occupied only.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
Children born per 100 families—crude rates.											
1906–11	0–5	88	88	66	77	87	90	102	77	112	101
1901–06	5–10	215	217	163	191	214	220	247	183	276	245
1896–1901	10–15	318	320	230	275	319	325	371	272	422	356
1891–96	15–20	407	411	287	347	412	416	477	360	555	464
1886–91	20–25	482	487	340	409	491	496	558	441	655	545
1881–96	25–30	539	547	396	468	556	557	614	510	723	617
1871–81	30–40	605	618	480	558	629	624	672	584	776	670
1861–71	40–50	679	700	592	663	711	700	737	671	827	728
1851–61	50–60	728	747	642	731	758	744	781	736	823	794
	over 60	761	767	665	779	737	796	790	722	913	819
	Total	353	350	249	311	350	356	399	308	423	433
Children born per 100 families—standardised rates.											
1906–11	0–5	88	88	70	81	86	90	100	76	105	101
1901–06	5–10	215	216	171	197	211	219	242	185	263	246
1896–1901	10–15	318	319	242	284	314	323	362	275	399	363
1891–96	15–20	407	408	303	359	405	412	463	359	517	470
1886–91	20–25	482	484	357	422	487	491	541	435	610	552
1881–86	25–30	539	542	413	481	544	550	596	501	671	618
1871–81	30–40	605	611	497	567	615	616	652	567	717	667
1861–71	40–50	679	690	607	665	696	690	715	648	777	719
1851–61	50–60	728	740	662	733	746	735	763	696	797	779
	over 60	761	764	682	777	729	792	781	732	870	820
	Total	353	355	277	321	353	359	392	319	433	399

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

TABLE I.—*Fertility of marriage distinguished by social class, duration of marriage, and age of wife at marriage—Contd.*

Date of marriage.	Duration of marriage in years.	All classes.		Social Class.							
		Occupied and unoccupied.	Occupied only.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
Children surviving per 100 families—crude rates.											
1906–11	0–5	79	79	62	71	79	81	90	67	98	93
1901–06	5–10	186	187	149	170	186	189	206	153	226	218
1896–1901	10–15	263	265	203	235	266	269	295	217	332	309
1891–96	15–20	328	331	247	289	334	335	368	280	424	396
1886–91	20–25	378	383	286	333	388	390	421	334	486	457
1881–86	25–30	416	423	325	374	430	431	455	378	525	509
1871–81	30–40	454	464	381	432	470	469	483	418	544	536
1861–71	40–50	484	501	440	489	503	501	507	451	550	555
1851–61	50–60	489	507	445	511	502	501	509	473	500	568
	over 60	470	479	418	483	438	505	469	444	538	540
	Total	280	278	210	255	279	283	306	235	321	359
Children surviving per 100 families—standardised rates.											
1906–11	0–5	79	79	66	74	78	81	88	67	92	92
1901–06	5–10	186	186	156	175	184	188	202	154	216	220
1896–1901	10–15	263	264	213	242	262	268	289	219	314	315
1891–96	15–20	328	329	260	297	328	333	358	279	395	401
1886–91	20–25	378	380	299	343	381	386	408	329	453	463
1881–86	25–30	416	419	338	384	421	425	442	371	488	510
1871–81	30–40	454	458	393	438	460	464	470	406	502	534
1861–71	40–50	484	494	450	490	493	494	492	434	517	548
1851–61	50–60	489	503	458	512	495	495	497	456	486	557
	over 60	470	476	428	483	437	500	461	463	516	541
	Total	280	281	232	262	281	285	300	242	325	334

This illustrates a type of difficulty which is liable to arise in dealing with marriages of continuing fertility only, and the comparison has, therefore, been extended in the case of the eight social classes to include all families, whatever the age of wife at Census.

Some of the chief results of this tabulation are stated in Table I, which gives the average families born and surviving respectively to each of the eight classes from marriages varying in date from the middle of the nineteenth century to the five years preceding the Census. Each of these rates has been standardised by the method described, and the effect of allowance for early marriage in decreasing the rates especially for Classes V and VII, and increasing those for Classes I and II, may be noticed. Another point of some interest

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

is the effect of their extremely high proportion of long duration marriages in raising the total fertility of all agricultural labourers (VIII) above that of miners (VII), though at each separate duration their total fertility, crude or standardised, is lower. This advantage is, of course, removed by standardisation, but agricultural superiority is restored when the higher death-rate amongst miners' children is taken into account.

But the main interest in the table attaches to the comparison of the differences in fertility between the classes for marriages of varying duration. It is evident that it was very much less for marriages dating from 1851–61 than for those of 1881–91. The way in which the various classes have been affected can be more clearly seen when the fertility of each class at each duration period is stated as a percentage of that of all classes at the same period. It is necessary here to restrict the comparison to occupied persons only, as by an oversight the former occupations of retired persons were not punched on the cards, so it is only the occupied who can be allocated to the social classes. The results of this comparison are given in Table II.

TABLE II.—*Standardised total and effective fertility of marriages of various dates in each social class per cent. of the corresponding rates for occupied persons of all classes jointly.*

	Date of marriage.	Duration of marriage in years.	Social Class.							
			I.	II.	III.	IV.	V.	VI.	VII.	VIII.
Total fertility	1906–11	0–5	80	92	98	102	114	87	120	114
	1901–06	5–10	79	91	98	101	112	86	122	114
	1896–1901	10–15	76	89	99	101	114	86	125	114
	1891–96	15–20	74	88	99	101	113	88	127	115
	1886–91	20–25	74	87	100	101	112	90	126	114
	1881–86	25–30	76	89	100	101	110	92	124	114
	1871–81	30–40	81	93	101	101	107	93	117	109
	1861–71	40–50	88	96	101	100	104	94	113	104
	1851–61	50–60	89	99	101	99	103	94	108	105
"Effective" fertility	1906–11	0–5	83	93	99	102	111	84	116	116
	1901–06	5–10	84	94	99	101	109	83	116	118
	1896–1901	10–15	81	92	99	101	109	83	119	119
	1891–96	15–20	79	90	100	101	109	85	120	122
	1886–91	20–25	79	90	100	101	107	87	119	122
	1881–86	25–30	81	92	101	101	106	89	116	122
	1871–81	30–40	86	96	100	101	103	89	110	116
	1861–71	40–50	91	99	100	100	100	88	105	111
	1851–61	50–60	91	102	98	98	99	91	97	111

The increase in range of total fertility from the marriages of 1851–61, which were 11 per cent. below the mean in the case of

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Class I (middle class) and 3 per cent. above in that of Class V (unskilled labour) to those of 1891–96, which were 26 per cent. below the mean in the case of Class I and 13 per cent. above it in that of Class V, is very apparent. If the lateness of marriage in Class I is not allowed for by standardisation the range is of course increased throughout, rising from 14 below and 5 above average for the marriages of 1851–61 to 30 below and 16 above for those of 1891–96. Miners have been specially fertile throughout, but their standardised excess has increased from 8 per cent. for the marriages of 1851–61 to 27 per cent. for those of 1891–96. The table seems to suggest that if the comparison could have been carried twenty years further back a period of substantial equality between all classes might possibly have been met with.

This seems to me quite the most important fact established by the Census fertility tabulation. We were already well aware that the more successful and prosperous classes were behindhand in their contribution to the upkeep of the nation; but it was possible to suppose that this might long have been the case, and that, therefore, experience had proved it to be compatible with such prosperity and advancement as had been achieved.[1] Now, however, this comforting view is no longer tenable. In the deficient fertility of the classes which, having achieved most success in life, are presumably best endowed with the qualifications for its achievement, we see that we have to face a new and formidable fact—how formidable is a question which must be left for the consideration of authorities on eugenics.

The bearing of this table upon the vexed question of the causation of the decline in fertility also seems of importance. Those who maintain that the decline is due to natural causes will have to explain why these should have operated first upon the more prosperous and educated classes, and then gradually come to affect the whole community. This sequence appears on the other hand very natural if we regard the decline as due to increasing practice of contraceptive measures. It is natural that the more educated classes should first

[1] See, however, Mr. Yule's contribution to the discussion. No doubt strong evidence had been adduced in the papers he mentions of the probability of recent relative decrease in middle-class fertility. But for reasons pointed out in his own paper the inference of the history of class fertility from that of the fertility of sample districts mainly representative of different social classes is not free from considerable possibility of error. The incautious wording of the statement refers to the fact that the existence and still more the extent of the change could only be definitely established on a national basis when suitable national data became available. The fact that the paper was hurriedly prepared to fill an unexpected gap may perhaps to some extent excuse the failure to refer to the papers mentioned by Mr. Yule.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

be affected by a movement such as the neo-Malthusian, which has always depended largely on the printing press for the dissemination of its ideas. If this point of view is accepted it will be seen that the decline of fertility corresponds in course as well as in time with what might be expected from this theory of its causation. The correspondence in time between the date of the Bradlaugh-Besant propaganda ("The Fruits of Philosophy" was published in 1876) and the commencement of fall in the birth-rate in 1877 has always been obvious; and the present tabulation reveals a correspondence also in the course of the movement from the classes presumably most to those least immediately accessible to such influence. The record of the fall which has occurred is in fact precisely what might be expected on the supposition that it has been brought about through the neo-Malthusian views and methods having secured gradually increasing acceptance. On the other hand there seems no reason why, if the fall were of natural origin, whether as part of a cyclic rhythm in fertility or from some environmental change, it should have commenced at the time it did more than any other, or followed the course throughout society which has been noted instead of affecting all classes together.

It will be seen from Table II that the fertility defect of Classes I and II, after increasing from a minimum for marriages of 50–60 years' duration to a maximum for those of 20–25, gradually decreases again for the more recent marriages, while the reverse of the same movement is exhibited by the most fertile class, miners. It does not follow, however, that the fertility of these classes, after diverging to a maximum extent in the case of the marriages of 1886–91, is now tending to approximate again on a lower level owing to more rapid decline recently on the part of the more fertile classes. This may be the explanation of the figures—time will tell, if the investigation is repeated—but an alternative possibility has already been referred to.

The apparent movement, such as it is, towards restoration of class equality, may be entirely due to the fact that the marriages exhibiting it are of increasingly recent duration. It would be very natural for the marriages where the chance of fertility has been longest in operation, *i.e.*, for those of longest duration at ages of wife under 45, to have been throughout affected most by artificial restriction. If so, it must have applied throughout the history of the movement more to marriages, whether of completed or continuing fertility, of 20–25 years' duration than to those of more recent date. From 0–5 to 20–25 years' duration the average number of years exposed to the chance of fertility evidently increases, and with it presumably the motive for restriction, whether the wife's census

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

age is under or over 45. From duration 30 years onwards this consideration entirely ceases to operate, for increase of duration no longer implies increase of exposure to the chance of fertility; and for practical purposes this change may be taken as occurring at a somewhat shorter duration than 30 years, owing to the very small proportion of marriages of 25–30 years' duration where the wife is under 45 at Census, especially in the case of Class I, in which early marriages are few. We thus see that the proportions in Table II can be fully explained without assuming any return towards the general level of fertility on the part of Classes I, II and VII. The apparent return commences precisely at that duration period when it can be explained on other grounds, divergence having continued to increase throughout the period of wholly completed fertility, in which the more simple conditions seem to admit of but one explanation. The results of future censuses must be awaited before attempting to form a final judgment, but in the meantime we can at least say that return towards equality is non-proven.

When we attempt to measure by means of Table II the extent of the decline in fertility recorded for any class or for all classes, we find that in order to use it for this purpose the table requires modification, even though it can be used as it stands for the purpose of comparing the relative movements in the various classes by reference of each to the experience of the whole (occupied) population as a standard. The reason is that this standard itself varies for marriages of different durations just as it has already been found to vary for different ages of wife at marriage, though for a different reason. Quantitative temporal comparisons can be carried out only for marriages of completed fertility, as for those of continuing fertility change of duration implies change in length of exposure to the chance of fertility. Where, however, this exposure has in all cases come to an end quantitative comparison of fertility records can be made if we allow for differences in the proportions of wives married at different ages. So far as differences at each duration between the social classes are concerned this allowance has been made by standardisation in Table I, and, therefore, the differences between the classes at various durations may fairly be compared, as has already been done in Table II. But though the standardised rates in Table I are comparable horizontally at each duration, they are not comparable vertically even for those periods at which the marriages are all of completed fertility. The reason is that the standard by means of which the standardised rates are obtained—the married couples of the whole country—becomes more and more favourable to fertility as the duration of marriage increases. This is an effect of mortality,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

which necessarily tells most severely upon the wives of highest age at marriage in each duration group, who not only are the oldest themselves but are married to the oldest husbands. As the duration, and with it the census ages of the wives, increases, this factor becomes of increasing importance, until at the longest duration of all—over 60 years—only those wives are left who married very early in life. It is obvious that from this cause alone the fertility recorded for marriages of over 60 years' duration must be expected to be considerably higher than that for those of 30–40 years' duration even though fertility is equally complete in both cases.

The difficulty may be got over, as in the report upon the Scottish Census, and in Table IV of the English report, by restricting the temporal comparison to families of a single age of wife at marriage. This yields unimpeachable results—provided the records are trustworthy and the survivors form a fair sample of the marriages of their time—so far as it goes, but it unfortunately does not go far enough. If the inquiry had been made ten years earlier this method might have sufficed, for it would then have been possible by its means to extend the comparison back to a period so remote that the marriages then entered into would have attained their complete fertility before the commencement of the fall in the birth-rate in 1877. As it is, however, the material, when divided as in these tables into single years of marriage age and duration, only suffices to carry the comparison back to the marriages of 1864 in Scotland and to those of 1862 in the case of the larger English figures. Marriages entered into at these dates have obviously in most cases been exposed in some degree to the influences which caused the fall in the birth-rate starting when they were of only 12–15 years' duration. Our desideratum must be, if possible, to establish a standard of fertility uninfluenced by this fall, and for this purpose the method in question just falls short of success. The fall is evidently in operation from the very commencement of these tables, as is well seen in the diagram facing page 33 of the Scottish report.

For this reason another method of avoiding this difficulty has been adopted, recourse being had once more to the method of standardisation in order to obtain comparable fertilities without reducing the scanty material available for the longest durations of marriage by subdivision. As the difficulty arises from the differences in marriage age of the wives in the various duration groups the fertility recorded for those of each age group has in the case of each duration been referred to a common standard—the couples in the duration group 30–40. In order to make the comparison as comprehensive as possible all marriages of over 25 years' duration have

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

been treated as of completed fertility, though in the 25–30 years' duration group some of the wives married at 15–19 were under 45 at Census. Even the wife married at 15, however, must have been aged at least 40 at Census, so the loss of fertility to the whole group arising from the fact that for a few of its members it was not quite complete must be very slight indeed. For all practical purposes the group of 25–30 years' duration may be included in the comparison.

The following table shows the results of comparing the fertilities of these long duration marriages with and without correction for the varying proportions in the total surviving population of wives married at different ages.

TABLE III.—*Comparison of the standardised total fertilities of marriages of various durations exceeding* 25 *years, showing the effect of correction for the variations as to age at marriage between the different duration groups.*

Duration of marriage in years.	Social class.									
	All classes.		I.	II.	III.	IV.	V.	VI.	VII.	VIII.
	Occupied and unoccupied.	Occupied only.								
Standardised on the families of the total population in each duration group.										
25–30	539	542	413	481	544	550	596	501	671	618
30–40	605	611	497	567	615	616	652	567	717	667
40–50	679	690	607	665	696	690	715	648	777	719
50–60	728	740	662	733	746	735	763	696	797	779
Over 60	761	764	682	777	729	792	781	732	870	820
Standardised on the families of the total population in duration group 30–40.										
25–30	551	555	422	491	556	562	609	513	684	630
30–40	605	611	497	567	615	616	652	567	717	667
40–50	662	673	593	650	679	673	698	633	760	702
50–60	690	701	625	700	707	700	718	654	759	738
Over 60	697	700	605	728	681	740	698	626	776	746

The correction greatly lessens the apparent fall in fertility throughout the period covered by this comparison, as it increases the rates for duration 25–30 and progressively decreases those for durations exceeding forty years. The fertility of marriages entered into before 1851 and during 1851–61 is shown as almost precisely the same

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

after the correction is applied, so apparently this method of presentation avails to carry us back to a period the marriages dating from which may be taken as uninfluenced by the fall in the birth-rate from 1877 onwards. This result seems reasonable, as the most recent marriage in the group of 50–60 years' duration had sixteen years to run before the fall in the birth-rate set in; and the effect must be to increase our confidence in the reliability of the Census material when we find that the change in fertility indicated by it agrees so closely with what might have been expected from the registration records. There is, indeed, some evidence, as will be seen, though not of a very definite nature, that the fertility of very aged couples is overstated. If this is the case, the equality of durations 50–60 and over 60 acquires all the more significance, for it would follow that without this overstatement the fertility of the latter group would have been somewhat below that of the former. This result, again, would harmonise with the registration records, which point to a gradual slight increase in fertility up to 1876, when the birth-rate attained its maximum. The increase, however, is not entirely attributable to increasing fertility of marriage, for the population conditions—proportion of wives of fertile age to total population—were at this time becoming slightly more favourable to a high birth-rate, and it is at least possible that some of the increase may have been due to increasing completeness of birth registration, which was not made compulsory until 1875.

So far as the separate history of the social classes is concerned, it will probably be well not to lay too much stress upon the differences between the records for marriages of 50–60 and of over 60 years' duration. The data in the latter case are very scanty, including only 644 occupied couples in the whole population. This may largely account for the fact that the range of difference between the classes is greater for the marriages of over 60 than of 50–60 years' duration, although Table II shows that up to duration 50–60 years it had been rapidly decreasing with increase of duration. The movements as between the two longest durations are quite irregular, as the rates for some classes are increased and those for others decreased with the reduction of duration, whereas steady reduction of fertility with further decrease of duration is an almost universal rule. The only exception to this in Table III applies to miners, whose definite decline in fertility does not set in until the marriages of 30–40 years' duration are reached.

But if we accept the marriages of 50–60 years' duration, those dating from 1851–61, as representative of stable fertility conditions, it does not follow that such differences as exist in that group between

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the classes are due to natural differences in their fertility. Even then the middle class and the textile workers furnished the lowest rates and the miners and agricultural labourers the highest. There may well have been some limitation of families by certain classes, even at this time of stable fertility; and on the other hand, it is possible that the differences may be partly due to differences in age at marriage, which are not wholly allowed for by the method of standardisation used. As far back as we now can make the comparison, the middle class has always married later, and miners earlier, than any other (Table VI). The result must be that the middle-class wives in a given age at marriage group must have been later, and the miners' wives in the same group earlier married than the average. The method of standardisation employed does not correct for such differences as these, but only for those in regard to total numbers in the various age at marriage groups. It, in fact, assumes that the potential fertility of the wives in any one group is the same for all classes, whereas variation between the classes in the average age at marriage of the wives within each group prevents this from being true.

The evidence already referred to as perhaps pointing towards a tendency on the part of the very aged to overstate their families may now be dealt with. If the excess fertility of marriages of longer duration over those dating from 25–30 years before 1911 is compared for different ages of wife at marriage, it appears from the following table that this excess increases from a minimum for the wives marrying earliest to a maximum for those marrying latest in life.

TABLE IV.—*Excess of fertility of marriages of longer durations over those of* 25–30 *years, compared for various ages of wife at marriage.*

	Duration.	Age at marriage				
		15–19.	20–24.	25–29.	30–34.	35–44.
Total fertility	25–30	741	583	423	302	137
	30–40	798	640	473	340	168
	40–50	844	705	530	373	209
	50–60	863	733	566	415	213
Per cent. of rate for 25–30 years' duration.	30–40	108	110	112	113	123
	40–50	114	121	125	124	153
	50–60	116	126	134	137	155

The greater decline during the period covered of the fertility of marriages entered into comparatively late in life is the more

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

remarkable because these marriages must have been much less exposed than those of younger women contracted at the same period to the influences responsible for the fall in the birth-rate from 1877 onwards; whereas it might have been anticipated that the earlier marriages taking place during the period immediately preceding that date would have had their fertility more reduced than later marriages of the same period, owing to the longer continuance of their potential fertility. Overstatement of the fertility of extremely old persons seems a possible explanation, in part, at least, of this peculiarity in the returns, and it is for this reason that these figures have been referred to as possibly indicating such overstatement. This would have to be reconciled, however, with the close agreement which has been shown to exist between the movement of fertility as recorded on the Census schedules and in the birth registers, and cannot be claimed to furnish a wholly satisfactory explanation of the anomaly.

In all the comparisons of standardised fertility hitherto made the effect of differences between the social classes in regard to age at marriage has been, as far as possible, eliminated. But very substantial differences do exist between the classes in this matter, and the fertility tables provide us with the means of measuring them. The proportions of wives married at different ages to one million at all ages in each class are stated below. These proportions, it must be remembered, apply not to wives as married,

TABLE V.—*Age at marriage in social classes—Wives married at different ages per million at all ages.*

Age at marriage.	All classes (excluding unoccupied).	Class I.	Class II.	Class III.	Class IV.
15–19	128,095	58,245	93,762	124,315	126,835
20–24	476,155	402,867	439,499	497,007	482,985
25–29	257,854	357,742	298,213	257,777	255,623
30–34	82,160	116,848	101,799	73,280	80,989
35 and over	55,736	64,298	66,727	47,623	53,568

Age at marriage.	All classes (excluding unoccupied).	Class V.	Class VI.	Class VII.	Class VIII.
15–19	—	173,766	103,629	217,828	144,001
20–24	—	484,108	505,148	530,074	492,385
25–29	—	210,205	263,519	161,748	218,354
30–34	—	73,121	76,075	49,301	77,770
35 and over	—	58,800	51,629	41,049	67,490

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

but to wives as surviving at census date; and the proportions of those married late in life are the smaller because their marriages have from the first been subjected to a heavier mortality than those of women married younger. But this consideration does not invalidate comparison between the classes, which are all subject to it. Any difference in the degree to which it affects them, owing to difference between their mortalities, can have little importance in comparison with such differences in marriage age as the table shows to exist.

The proportion of surviving wives married at less than 20 years of age rises from a minimum of 5·8 per cent. in Class I, to a maximum of 21·8 per cent. amongst the mining population. Class I also provides the smallest proportion, and Class VII the largest, of wives married at 20–24 years of age. At ages 25–29 and upwards the position is exactly reversed, Class I recording the maximum and Class VII the minimum proportion, except that the survivors of the oldest group of brides are most numerous amongst agricultural labourers, no doubt because of their low mortality. (This will not explain the rather puzzling excess of Class II over Class I in this group.) Generally speaking, it will be seen that late marriage and low standardised fertility when married go hand in hand. Postponement of marriage is, of course, one of the most effective methods of limiting fertility; and whether it is voluntary or imposed by circumstance it seems generally to be adopted in conjunction with other measures having the same result. Early marriages increase, and late marriages decrease in comparative frequency from the first to the fifth of the five graded classes with almost the regularity of their gradation in fertility.

The figures quoted above refer to marriages of all durations. When the different durations are tabulated separately, it is seen that the differences between the classes in this respect appear to have increased considerably during the half century preceding the Census. It is necessary to be cautious in accepting this apparent increase, because the effect of mortality alone, as we work back towards a period from which the youngest brides alone can survive, must be to approximate all surviving marriages towards a common level of earliness. But the divergence between the classes has continued even in recent years, although the effect of mortality upon the apparent age at marriage during them must be slight. This may be seen from the following table of average ages at marriage in the various classes. These ages have been obtained by first ascertaining (from Table I of the Census Report) the average exact age at marriage in the whole population for wives

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

married at 15–19, 20–24, &c., in 1906–11, 1901–06, &c. Table I enables us to determine these average ages for the forty years preceding the Census. When obtained they were applied to the wives of corresponding grouped age at marriage and duration of marriage in each of the eight classes, whose average age at marriage in each duration group was thus obtained.

TABLE VI.—*Average age of wife at marriage in marriages of varying duration and social class.*

Duration of marriage in years.	All classes (occupied only).	Social Class.							
		I.	II.	III.	IV.	V.	VI.	VII.	VIII.
0–5	25·3	26·6	26·1	25·1	25·2	24·8	25·1	23·6	24·9
5–10	24·8	26·1	25·6	24·6	24·7	24·3	25·0	23·3	24·7
10–15	24·5	25·7	25·2	24·2	24·4	24·0	24·7	23·1	24·7
15–20	24·2	25·3	24·9	24·0	24·1	23·7	24·2	22·8	24·3
20–25	23·8	24·7	24·4	23·5	23·7	23·3	23·6	22·5	24·0
25–30	23·4	24·2	23·9	23·1	23·2	22·9	23·0	22·1	23·4
30–40	23·0	23·7	23·3	22·6	22·8	22·5	22·5	21·6	23·0

It is necessary always to bear in mind that these are the average ages at marriage of the survivors only, and not of all the women married at the corresponding dates. Some idea of the effect of this consideration in exaggerating the increase which has occurred may be obtained by comparison with the corresponding average ages as determined for all brides from the marriage registers for the fifteen years preceding the Census. These are, approximately, 26·45 years for marriages of 0–5 years before 1911, 26·22 for those of 5–10, and 26·07 for those of 10–15. Here the rate of increase is only about half that shown above, and the excess may measure the effect of mortality. The excess of 1–1½ year in the average ages derived from the registration records over those derived from the Census figures is mainly due to the fact that the former include brides of all ages while the latter necessarily exclude wives aged over 45 at marriage, for whom the means of obtaining the average age at marriage is lacking. The average age at marriage during 1906–10 of brides under 45 years of age, as deducible from the registration records, was about 25·6 years as against 25·3 in Table VI. This small difference is no doubt partly accounted for by overstatement in the Census figures of the duration of recent marriages, which involves corresponding understatement of the age at marriage in Table VI. There are also a few marriages registered without statement of the bride's age (less than 1 per cent. in 1906–10) but the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

effect of their inclusion would probably be to cause a slight increase in the average age as registered. As against this however, it is known that the age of some young brides is overstated in registration in order to conceal the fact that parental consent to the marriage is required by law. When these necessary corrections and allowances are made the closeness of the agreement between the registration and census results is remarkable, and furnishes further evidence of the general reliability of the latter.

Although the figures in Table VI are unreliable as absolute measures of marriage age because they include the survivors only of the women married at the periods in question, there seems to be no reason why they should not be accepted as summing up the differences in this respect between the social classes. They show clearly that during the forty years before the Census the classes most fertile when married, age for age, also married earliest; and they also suggest, though more doubtfully, that this difference has been increasing.

It may now be of interest to refer to some points in connection with certain of the social classes which serve either to amplify or to explain the results already stated. Amplification is most required in the case of Class I, because although the smallest of the five graded classes, it is by far the most heterogeneous, including all ranks of the social scale from the lower middle class upwards. For this reason the rates for a few of its constituent occupations may be quoted in further illustration of the connection between fertility and social position.

The figures in this table refer to those marriages only where the wife was under 45 years of age at Census. The occupations have been selected as amongst the most representative of the middle classes on the Census list. Naturally, none are to be found which can be said to represent the upper classes; and, outside the professions there are scarcely any which can be accounted purely middle class. Such a title as commercial travellers, for instance, doubtless includes a number of itinerant vendors who would be unlikely to be so described by anyone but themselves. On account of this admixture with lower and more fertile strata, it is probable that in all the cases quoted, except those of the most clearly-defined professions, the rates shown are somewhat in excess of the actual facts.

It will be seen that the total fertility of all the professions tabulated, except Nonconformist ministers, is below the very low Class I standard, though their very low child mortality causes the clergy of the Established Church slightly to exceed this standard in regard

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

TABLE VII.—*Fertility and child mortality in certain Class I occupations.*

Husband's occupation.	Total fertility (children born).			
	Average actual family.	Standardised family.	Ratios per cent. of England and Wales.	
			Actual.	Stand.
All Class I occupations	1·90	2·13	68	76
Army officers	1·54	1·67	55	59
Naval officers	1·39	1·60	49	57
Clergymen (C. of E.)	1·84	2·03	65	72
Other ministers	1·91	2·25	68	80
Barristers	1·65	1·78	59	63
Solicitors	1·73	1·88	61	67
Physicians	1·69	1·82	60	65
Teachers	1·66	1·98	59	70
Authors, journalists, &c.	1·77	1·89	63	67
Consulting engineers	1·72	1·86	61	66
Architects	1·66	1·89	59	67
Artists	1·75	1·84	62	65
Commercial travellers....	2·00	2·15	71	76
Accountants	1·75	1·93	62	69
Auctioneers	1·96	2·04	70	72
Bank clerks	1·39	1·77	49	63
Civil Service clerks	1·82	2·06	65	73
Insurance clerks	2·01	2·20	71	78
Commercial clerks	1·77	2·14	63	76
Private means	1·58	1·66	56	59

Husband's occupation.	Effective fertility (children surviving).				Standardised child mortality.
	Average actual family.	Standardised family.	Ratios per cent. of England and Wales.		
			Actual.	Stand.	
All Class I occupations	1·68	1·87	72	80	123
Army officers	1·41	1·52	61	66	85
Naval officers	1·27	1·45	55	62	92
Clergymen (C. of E.)	1·72	1·89	74	81	68
Other ministers	1·71	1·98	73	85	120
Barristers	1·55	1·66	67	71	69
Solicitors	1·62	1·75	70	75	70
Physicians	1·57	1·67	67	72	81
Teachers	1·50	1·77	64	76	105
Authors, journalists, &c.	1·58	1·68	68	72	108
Consulting engineers	1·57	1·69	67	73	92
Architects	1·52	1·73	65	74	86
Artists	1·55	1·63	67	70	118
Commercial travellers....	1·77	1·89	76	81	124
Accountants	1·60	1·75	69	75	95
Auctioneers	1·76	1·82	76	78	109
Bank clerks	1·29	1·63	55	70	82
Civil Service clerks	1·64	1·84	70	79	108
Insurance clerks	1·76	1·91	76	82	131
Commercial clerks	1·56	1·86	67	80	130
Private means	1·44	1·51	62	65	93

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

to effective fertility. All the other professions return low rates even for Class I, which correction for their generally favourable mortality experience does not serve to bring up to the Class I average. It is fairly evident that this class, which may be taken to represent the best-educated and probably, on the whole, the most intelligent section of the community, is considerably less fertile even than Class I as a whole. The exceptionally low figures for naval and military officers may be due to circumstances in their case rendering the maintenance of a family specially difficult, but the failure of this fine stock to reproduce itself is none the less to be regretted. Probably a similar explanation holds good for bank clerks, the increase of their earnings being notoriously slow, though they do not encounter the difficulties involved by foreign service.

The other cases of exceptionally low rates do not seem to suggest any similar explanation. Early marriage is, no doubt, very generally forbidden to barristers and physicians and others whose professional training (before and after formal admission to their profession) is protracted; but this can only affect the "actual family" columns—the crude fertility rates. Standardisation allows for late marriage, but yet it does not go far to make up the deficit. When all allowances are made the professions, which form the purest examples of middle-class occupations, are exceedingly infertile. But the most remarkable case of all, probably, is that of persons describing themselves as of private means. In their case, presumably, those anxieties and difficulties which militate against fertility are at a minimum, but fertility is also at a minimum. Conceivably, the reason may be that the more capable and energetic members of the class here represented do follow some definite occupation under which they return themselves; and that their fertility is higher than that of the inferior remainder of their class, with whom on this supposition we have here to deal.

But this is pure supposition without any tabulated facts to support it. All the evidence of the table points to a continuation within the ranks of Class I itself of that inverse ratio of fertility to social status which we have seen to obtain as between the five great social classes tabulated. It may be that above a certain level this rule ceases to hold good, but there is no evidence of this in the Census Returns, which suggest, though they do not prove, the continued application of the rule from one end of the social scale to the other.

The effect of female occupation upon married fertility may now be briefly referred to. Comparison of the fertility records of occupied wives with those of husbands engaged in the same occupations

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

shows that they are almost without exception considerably lower. In many of these cases, as for instance textile workers and teachers, the women in question must be very largely the wives of men in the same occupation, so the effect of female occupation in lowering fertility is clearly established. In some cases the differences are very great, *e.g.*, teachers, with standardised total fertility ratios (to the average for all occupations) of 70 per cent. for males and 52 for females; musicians, 78 and 54; commercial clerks, 76 and 55; farmers, 100 and 83; woollen weavers, 79 and 59; textile dyers and finishers, 92 and 72; and barmen and barmaids, 100 and 63. Even in the case of persons returned as living on private means the fertility is only 50 per cent. of average where the wife is so returned as against 59 per cent. where this description applies to the husband.

The contrasts quoted understate the case, for they do not represent the comparison between, *e.g.*, the families where both father and mother are teachers and the families where the father alone is a teacher. In many of the cases where the father is a teacher the mother, no doubt, is also a teacher, and the fertility is decreased on that account below the standard for male teachers generally. If these cases could be excluded the rate for other male teachers would be higher than that stated, and its contrast with that for female teachers increased.

These differences are readily explained if we attribute to human volition the fall which has occurred in the nation's fertility, but if we refuse to acknowledge this agency, it is necessary to assume the reduction of female fertility by non-domestic work as a law of nature. Seeing that it is just those women whose domestic work is hardest (*e.g.*, the wives of miners) who are most fertile, this proposition seems, to say the least, improbable.[1]

No doubt the low fertility of Class VI is largely explained by the extent to which the wives of male textile operatives themselves work in the mills. Married women employed in the cotton industry amounted, in 1911, to about 90 per cent. of married men, and in the woollen industry to 50 per cent. It may be assumed that these married women are very largely the wives of male textile operatives, whose persistently low fertility is thus accounted for. In further illustration of this point, it may be mentioned that cotton spinners

[1] A third possibility should be referred to—that the families of women workers are small because mothers of small families are more free than others to undertake non-domestic work. It is only in so far as this does not apply that the two alternatives presented above hold the field. No statistical test of the extent to which this last explanation applies suggests itself; but it may be remarked that where the family is small the need for work by the mother must in general be less, though the opportunity for it is greater.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

are definitely more fertile than cotton weavers, the standardised total family of spinners being 2·59, or 92 per cent. of average, as against 2·29 and 81 per cent. for weavers. This difference appears to be explained when we find that the number of married males engaged in cotton spinning processes is returned as 32,474, and of married females, 10,637, whereas for weaving processes the numbers are 38,620 and 53,691 respectively. Broadly speaking, spinning is a man's job and weaving a woman's, and as the two are largely concentrated in different localities, there is evidently much more chance of the weaver than of the spinner husband having a wife who also works in the mill.

In conclusion, the more important facts established by the Census tabulation may be summarised as follows :—

(1) Child mortality varies directly and enormously with the number of children born and with the rapidity with which they are born.

(2) Child mortality also varies with the age of the mother at marriage.

(3) In order to compare fertility of marriage in the various social classes allowance must be made for variation in the age at which they marry. When this is done by the method of standardisation described fertility is found to increase downwards throughout the social scale.

(4) The difference in fertility between the social classes is small for marriages contracted before 1861, and rapidly increases to a maximum for those of 1891–96. The slight subsequent approximation between the classes may be apparent rather than real. The difference in fertility between the social classes is, broadly speaking, a new phenomenon, and on that account the more disquieting.

(5) When the necessary allowances are made the commencement of the decline, as measured by the Census fertility returns corresponds in date with the commencement of the fall in the birth-rate. This strongly confirms the reliability of the Census figures. Similar confirmation is afforded by close correspondence of the average age at marriage as deduced from the Census figures with that derived from the registration returns.

(6) The following features of the Census figures point towards artificial restraint of fertility as the cause of its decline :—

(*a*) The gradual spread of the decline throughout society, from above downwards.

(*b*) The exceptionally low fertility of occupied mothers.

(*c*) The increase in the defect for the higher social classes with increase of duration of marriage up to 25 years.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(7) The lowest fertility rates are returned for the most purely middle class occupations—the professions.

(8) The comparatively low child mortality of the less fertile classes goes but a small way to compensate for their low fertility.

(9) The classes which are least fertile when married also marry latest in life.

(10) Ante-nuptial conception leads to great understatement of the number of marriages of less than twelve months' duration. Such understatement is the rule amongst all classes where the wife's marriage age is under twenty, and becomes less frequent as the wife's age increases. At ages over 20 its frequency varies with social position, reaching its maximum amongst unskilled labourers.

Discussion on Dr. Stevenson's Paper.

The Chairman said that before he called on the mover and seconder of the vote of thanks, he wished to add his congratulations to those which he was sure Dr. Stevenson would receive on his Paper; because, as Registrar-General, he had been associated with him from the beginning in the enterprise of collecting these statistics at the last Census, though the initiative and suggestion was entirely due to him. Dr. Stevenson ought always to have the credit of that. The Paper was of importance because it was the first occasion on which conclusions had been drawn from the facts collected. Perhaps, indeed, it was the first time it had been possible to draw conclusions from so wide a field of reliable statistics on this subject. He thought that both the Society and Dr. Stevenson were to be congratulated on his having had that opportunity of summing up the results of his own work. The delay in the completion and official publication of the statistics was unfortunate, but he did not think that they could accept blame for it. It was entirely due to the exigencies of the war, and to the veto which had been necessarily placed on the publication of statistics not bearing on topics of immediate current importance, and to the other additional tasks which had fallen to Dr. Stevenson. With regard to the conclusions put forward, he would leave others to speak, but he hoped that they would elicit much interesting comment both there and outside.

Dr. Brownlee said that in one sense he had very great pleasure in moving the vote of thanks to Dr. Stevenson for his valuable Paper. In another sense he had a feeling of great diffidence, because the discussion of so many figures covering so wide a field

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

was a work of difficulty. From the beginning to the end there was so much material in the Paper, that it was impossible to do more than refer to a few points. He had for a long time held the belief that the fall in the birth-rate was not a phenomenon which was wholly accounted for by deliberate limitation of families. Dr. Stevenson made this opinion a little more difficult to defend. He, however, was still not quite convinced. Such phenomena in history as the successive waves of Norse invasions, and the periodic outflowings of population from Arabia had always seemed to him to demand something in the nature of a high birth-rate. It must be taken at any rate as certain, that in England and Wales from 1750 there was a higher birth-rate in relation to the death-rate than there had been immediately before. The great expansion of England succeeding 1750 was associated with expansion of the population. The treatment of these questions was greatly interfered with by the limited range of statistics. The figures such as they were could be marshalled in many ways and there was none to say which was right and which was wrong. There was some comfort when Dr. Stevenson referred to Mr. Ansell's figures, but when comparisons are made they must be made on similar data. They must accept for what it was worth the comparison of fertility in Dr. Stevenson's tables, which showed a considerably higher relative fertility in the educated families in the middle of last century than at present. He had no doubt at all himself that prevention of birth had played some part in the fall among the educated classes, but even there that was not all. He was not quite so sure, however, about prevention playing a large part throughout the whole country. As to fertility there were great difficulties. At one time in his life he had bred his own guinea pigs for scientific purposes. As long as he was allowed to do this in his own way, which was to allow the guinea pigs to multiply to the greatest number which could be accommodated in the space at their disposal, he had no difficulty in obtaining any number of guinea pigs. Other people who had bred guinea pigs gave similar experience. The inspector of vivisection, however, limited his potential parents to a certain number. From that time he had to buy, as they did not breed any longer to the required extent. He had also been told that exactly the same had happened in the lion houses in Dublin. With the building of the new lion houses, where there was much more space and fresh air, the birth rate had fallen. Dr. Stevenson challenged an alternative explanation, that limitation of the birth rate began in the better classes and spread downwards. He offered one partly as a jest. They had heard that the most fertile people were colliers. They were people who lived in small houses and had plenty of coal to burn. To remain in a collier's house was often somewhat trying. Even in summer time, they had big fires going. In the better class houses ventilation held more sway, and the temperature was in general lower. Sanitation and fresh air became of importance earlier in the upper classes than in the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

lower. The doctrine of fresh air, while it may be a healthy doctrine as regarded the individual, was not necessarily quite so healthy a doctrine as regarded the procreation of the species. He did not want to say very much more as there must be a number of persons who wished to speak on so interesting a subject. The question of female fertility in relation to the type of employment, however, was a question of supreme interest at the present moment. If the education of women for separate employment were going to result in a large proportion of the able women of the country becoming sterile, it was not a good outlook for the country from a eugenic point of view. Able men had fewer children. What was apparently happening now was that the able men and the able women were both going to fail in reproduction. It was not a question then of limiting heredity ability on one side as limiting it on both. In these days the clever child in the working class was being systematically selected for education. The result of this then would be a gradual breeding out of ability in the working classes. He thought that the problem at the present moment was one of very considerable seriousness, and that if the reduction in the number of people who had the capacity to lead continued it would land the nation in a disorganized state. He congratulated Dr. Stevenson very highly upon his most excellent Paper.

Major Darwin said he had great pleasure in seconding the vote of thanks, and in saying how extremely valuable he thought the Paper would be to all of these who were interested in eugenics. It was a store of valuable information in reference to changes in the birth-rates of the different classes, based on so wide a foundation that it would be referred to for many years to come. He quite agreed with Dr. Stevenson that the fact that the differential change in the birth-rate had been a recent occurrence, was a most serious fact, and one which ought to be very carefully considered. It was most serious from the eugenic point of view, but the word "eugenic" was used with many different meanings. He would wish to confine the meaning to that which Francis Galton intended to attach to it, namely, to the science dealing with all those changes which took place in the actual inborn characters of the race and as having nothing to do with environment. But if they took that view of the word "eugenics" then it seemed to him that these figures were formidable: far outside the scope of eugenics proper. In isolating different influences they could assume other influences to be absent; and for the moment he might assume that the civilisation of this country was neither deteriorating nor advancing. If they made that assumption and looked at the figures, it seemed to him that the result was this. It followed that on the average the children of this generation were being brought up in worse houses to those in which the parents of to-day had on the average been brought up in. This sounded like a paradox, but he thought it was the inevitable result of the figures; and when they knew

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

how much children were affected by their early years and how slow was the growth of culture, it seemed to him that this was a very serious consideration, entirely without reference to heredity; perhaps the most serious consideration if they looked to the immediate future. If they were looking at the more distant future and to true eugenic questions, that is to the gradual weeding out of the best stock, then he thought eugenic considerations did become of far more importance. But he was afraid that it would be very difficult to get the public to consider these facts in that way. So many people in the first place were inclined to say: "Yes, it is important, but let us change the subject." Others said that they did not believe in heredity, without saying what they meant by that statement. But the most difficult point eugenists had to make was in showing that there was a difference between these classes in regard to their inborn qualities. If they could only get some way of actually measuring the differences in inborn qualities, it would be of enormous importance; but no such method had yet been discovered. They could only base their belief in a correlation between social classification and hereditary qualities on theoretical considerations and on comparatively few actual facts. Dr. Stevenson had recalled one interesting fact mentioned by M. March, namely, that the children in the first year of their lives, even if they were the first of a family, had greater mortality when the family was destined to be large than when the family was destined to be small. He could only account for that state of things by assuming that naturally careless parents showed their carelessness by producing a high mortality amongst their children, and also by not limiting their families as much as those endowed with forethought. That was only one of the many minor points which gave some confirmation of the belief that there was a correlation between class and inborn qualities. Then Dr. Stevenson had discussed whether the fall in the birth-rate was due to natural causes. The natural qualities of human beings were of two kinds, namely those which did not affect voluntary actions and those which did As to the former, it was quite obvious that the fall in the birth-rate could not have anything to do with physiological infertility. Natural qualities did not change as quickly as that. He must say that he would expect to find that the upper classes were slightly more physiologically infertile. He quite agreed with Dr. Stevenson that the fall of the birth-rate was mainly due to voluntary limitation, but it seemed to him that it did not follow that they must rule out differences in innate qualities such as affected voluntary actions as one of the ultimate causes of the differential birth-rate. Small families would come to the front more readily than large families, and therefore the natural qualities that tended to produce small families ought to be gradually segregated into the upper classes. They ought to expect the upper classes to be relatively physiologically infertile and to have natural qualities making them marry late and indulge in birth limitation. Those conditions ought

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

always to have existed, and he ventured to prophesy that if they ever came to be able to look into the past they would find that the upper classes had always been somewhat more infertile than the lower classes. He was glad to hear Dr. Stevenson taking that view. They had to remember that some of these natural differences between individuals had much more effect now, when birth limitation was possible, than they had when the means of birth limitation were unknown. Those who were careful and had forethought would naturally look to the future welfare of their children, and he believed that they would now be more apt to limit their families; whereas in olden times, when there were no means known of limiting the family, it was probable that, the sexual passions being so strong, it made little difference whether a person was naturally careful or not. His point was that there might be differences in the natural qualities of the classes which accounted to a certain extent for these differences of fertility, and if so, the figures were more formidable than they looked on the surface, because these differences of natural qualities would be hard to eradicate. It appeared from the Paper that the practice of voluntary limitation began in the upper classes and gradually spread to the lower classes. If that were so, the first result of attempting entirely to get rid of that practice would, by reversing history, be to increase the difference in fertility between the classes and to produce a disgenic effect. It might in the end produce a eugenic effect. Then if, on the other hand, they tried to entirely get rid of the disgenic effects of birth limitation by promoting its use in the lower classes, that he believed would prove to be impossible. If they were to combat the serious state of things disclosed in this paper, they must not rely wholly on birth limitation. He could only say again that he was quite certain that it was one of the most valuable contributions to eugenic literature they had had for a long time, and he was sure that all who were interested in eugenics would be extremely grateful to Dr. Stevenson for it.

Sir A. WATSON said that the subject Dr. Stevenson had dealt with was one of such complexity and involved so many variables, that without a good deal more thought than had been possible in the time available it was very difficult to arrive at conclusions which confirmed or conflicted with those which Dr. Stevenson had himself formed. But in that connection he wished to refer to what he deemed the most important conclusion he drew from Table I, which conclusion was stated on page 431. He thought, summarised, it was this: that among the higher social classes the decline in fertility had been more rapid than among the lower social classes, and was therefore a disquieting fact in connection with their national well-being. He was a little doubtful whether the figures in Table I did support that rather serious conclusion, because those classes in the social scale were not watertight. There was continual movement among them, and he had no doubt that so far as Class I was

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

concerned, that was the ultimate resting place of classes which were continually moving upwards. If that be the case, the marriages of longest duration which were recorded in that census, would refer perhaps to an appreciable extent to the persons who began in much lower social classes than No. I, and probably remained in those classes while their children were being born. If that theory, which he advanced only as a theory, were valid, it would naturally follow that the column called Class I in Table I, was in point of fact at the bottom of the column, an admixture to perhaps a considerable extent of the lower classes, and it only tended towards becoming Class I as the marriages of shortest duration were reached. If there were anything in the theory, he thought it might go a long way towards giving them a reason to hope that, while there was a general decline in fertility in the community, which they certainly could not dispute, it was not more marked among the higher social classes than among the lower. One other point related to the puzzling phenomenon which Dr. Stevenson had found in the small number of marriages under two years' duration, and as to which he drew conclusions of a rather sinister character as regarded their social conditions. He pointed out that on the basis of the marriages registered during the five years preceding the Census, the ratio of marriages of less than two years' duration should be about 40 per cent., but in point of fact the recorded percentage was only 36·3. He invited them to believe, and gave them pretty strong evidence in support of his belief, that a good many marriages of short duration were stated as marriages of longer duration in order to account for the family that appeared on the census schedule. But he (the speaker) rather hoped that that disquieting explanation was not the whole one; and in that connection he would ask Dr. Stevenson whether he had considered the rather similar feature that was found in the recorded number of children of ages under two years, where, if he remembered rightly, there was a remarkable shortage of children compared with the numbers known to have been born. The explanation had always seemed possible that people mixed up the completed year of age with the current year of age, and a good number of children whose ages were between one and two were actually scheduled as aged two. He ventured to suggest as a possibility that the same thing had happened with regard to marriages. What was asked on the Census return was "Completed years the present marriage "has lasted. If less than one year, write 'Under one.'" He thought it quite likely in a great number of marriages, where the marriage was of duration less than one year, the figure 1 was put, and where it was less than two, the figure 2 was put, the current duration of marriage being put down instead of the completed duration for which the Schedule asked. If that were so, undoubtedly a number of marriages that ought to have been scheduled in the first two years of duration had got into the next higher duration, and he supposed that would run throughout the scale of durations.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

He hoped that that was the explanation; because it seemed to him that in Conclusion No. 10 at the end of the Paper Dr. Stevenson had given them a very disconcerting conclusion indeed as to some of the social conditions amongst their people. It was a conclusion which, to be perfectly frank, he found the utmost difficulty in accepting. Even on the figures as they stood, where they ought to have had something like 40 per cent. of marriages for the ages of 15 to 19 at marriage, they had 30 per cent.; that is to say, they had an acknowledgment of the real duration in three-quarters of the cases. With that fact before them, and with the possibility that considerable numbers of people had mistaken the information they were asked to give on the Census schedule, he found it very difficult to believe, as it seemed to be suggested in the Paper, if he had not misunderstood Dr. Stevenson, that ante-nuptial conception appeared to be the rule amongst all classes where the wife's marriage age was under 20. He scarcely thought that that could be the case.

Dr. Marie Stopes said that Major Darwin had just said he would like to look into the past, and the reader of the Paper would also like to look into the past and get facts from times before the knowledge circulated by Besant and Bradlaugh was available to confuse the issue. She thought that they could do that in the publications of the founder of Eugenics. She did not foresee what course the Paper would take to-day, so she had not brought the exact literary references; but if she remembered rightly, Sir Francis Galton published a book about 1860 or 1867 about the Heredity of Genius, and his figures all dealt with earlier dates than that and went back to the seventeenth and even the sixteenth centuries. She thought one of the conclusions of Galton's work was that as the sons of superior successful families such as produced Judges, Admirals and distinguished men in general married, they tended to marry heiresses, and those heiresses tended to be physiologically infertile. She thought they would find in Galton's pages a good many instances making it quite clear that those families became extinct through intermarrying heiresses, and that there true *physiological* infertility arose. The Chairman of the Eugenic Society would correct her if she were wrong, but she thought that that conclusion was justified. [Major Darwin signified his agreement.] She suggested to the reader of the Paper that he would find that statement in Galton. Also she would refer to some German work of which she again had not the exact reference. But she thought that Dr. Ploetz in 1860, certainly not later than 1880, came to the same conclusion as the reader of the Paper as to the prospect of life of the children born in larger families, finding the twelfth child had only about 40 per cent. expectation of life, thus adding proof to the conclusion in the middle paragraph of the first sheet of to-day's Paper. The question of the actual physiological infertility of a woman seemed to her an extremely important one, and she would like to ask the reader of the Paper whether it would not be possible

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REFRENCE BOOK

when he used the word "fertility" to indicate whether he meant an actual physiological infertility such as they found in the heiresses described by Galton before the knowledge of contraceptives existed, or whether he meant merely the control of parenthood to such an extent that a pair had only one child, let us say, in which case they would be described as of very low fertility, but it might not be low physiological fertility at all. Parents with very high physiological fertility might through stress of economic circumstances be restraining their birth-rate and have only one child, whereas another couple in the same economic condition might be actually physiologically infertile. She supposed that from the statistics of the Census it would be extremely difficult to disentangle those two; but she thought that until they got in their literature a usage of those words clearly distinguishing between a true physiological infertility and definitely controlled conception on the part of a potentially fertile person, they would never get at the root of what they were talking about. She did not know whether it would be possible, now that there was a movement to get more accurate statistics, to endeavour to discover the data more accurately; whether, for instance, it would be possible where a family consisted of only one child to obtain some information which would show whether that one-child family was a one-child family as the result of volition or of the husband having affected the wife with gonorrhœa, for instance? She understood that 50 per cent. of one-child families was the result of that. In that case there was no potential infertility on the part of the wife; but with the introduction of the disease on the other hand there was a physiological infertility which resulted in restricting their families. It ought not to be beyond the possibility of human agencies to discover some way of getting at these different features in the Census returns, and then they might really handle the subject in a satisfactory way and discover whether there was actual physiological infertility in certain classes. Personally she could not help feeling a little pleased at the reference to the colliers, because she supposed they all remembered how Mr. Smillie had said that the infant mortality of miners was higher than that of any others in the country. She had discovered the fact herself from the Census, that the infant mortality was higher *because* the birth rate was higher, and had written to the Commission and the Press, and circulated it to nearly every paper in the country, but only one of them would publish it, because they were all afraid of the colliers, and said it was better to let them worry the public about their infant mortality being higher, rather than inform them that it was a natural result of their high birth-rate.

A letter from Mr. G. Udny Yule, C.B.E., was read by Dr. Greenwood:—

"I should like to be allowed to express my congratulations to "Dr. Stevenson on the Census statistics of fertility, and the "interesting conclusions he has drawn therefrom. The Paper is

REFRENCE BOOK

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

"one which requires a good deal of close study, more than I have at "present been able to give to it, and there is only one point on "which I should like to comment. Dr. Stevenson, on page 417, "speaks of the relatively decreased fertility of 'the more "successful and prosperous classes' as 'a new and formidable "fact,' which he seems to regard *as proven for the first time by the "Census statistics*. This view rather surprised me, as I had regarded "it as well established long since. Professor Pearson dealt with "the matter in a lecture of 1903. Dr. Heron, in a memoir of 1906 "'on the relation of fertility in man to social status and on the "changes in this relation that have taken place during the last 50 "years,' specifically dealt with the question; some paragraphs in "my own paper of the same year (*Journal*, 1906, pp. 118–121) "also dealt with it and I should have regarded certain sections of "Drs. Newsholme and Stevenson's Paper read at the same time "(*e.g.*, p. 66 end of first par.) as evidence in the same direction. "The Census data have given much wider evidence on the point, "but I do not think they have established a new conclusion."

Dr. GREENWOOD said he would like to add his congratulations to those of other speakers and, upon one point, to attempt to console Dr. Brownlee, although the point was a small one. Some years ago, he (Dr. Greenwood) analysed some data respecting the families of educated women, which had been collected on behalf of the Birth-Rate Commission. The inquiry was a small one, but some 700 schedules were collected and a brief analysis of them was published by the Commission. (He hoped to publish a fuller analysis shortly.) The questions on the schedule had been drawn up in great detail, and specific inquiries were made not only as to whether the families were artificially limited, but also as to how they were limited. In the result it appeared that the average size of "limited" families was *greater* than that of "unlimited" families even when sterile unions were excluded and allowance made for age at marriage and duration of marriage. His own opinion was that the paradox should be attributed to the fact that nearly everyone when the word limitation was used would think of some artificial or "un-"natural" means, so that many who actually abstained from sexual intercourse might still not regard themselves as belonging to the class of "limited" fertility. He suspected that limitation in this sense was quite as important a factor as others upon which much eloquence has been expended. He had, however, no statistical proof of this assertion, and must therefore make a present of the observation to Dr. Brownlee to be interpreted as Dr. Brownlee thought fit. He desired also to refer to Sir Alfred Watson's argument respecting the comparison between present and past conditions. Might not the question of a differential survival rate be of importance? Was a comparison of the families of aged survivors in different classes an adequate substitute for that of average families in the two generations?

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Dr. R. DUDFIELD said he wished to congratulate Dr. Stevenson on the work he had done. He (the speaker) had some doubt whether he ought to intervene in the discussion, as he had not been able to refer to Volume 13 of the Census Report, that dealing with fertility. Dr. Stevenson had confined his work entirely to the data which were to be found in the schedules containing both the husbands and wives, and had not given any idea of the proportion of the total population appearing on such schedules. When he said "total population," he meant total population in the married state. It would be interesting, if it were possible, to examine the information obtainable from schedules in which the husband and wife were not shown together, and to know whether the result of such examination confirmed or otherwise the author's conclusion. He ventured to express the hope that the statement contained in the paragraph beginning "It will be shown that both fertility and "child mortality are higher than . . ."—the last sentence and the general sense of the whole paragraph—did not mean that Dr. Stevenson wished them to understand that a high mortality was inherently consequential to a high birth-rate. To put it shortly, that if they had a high birth-rate they must have a high mortality.

Dr. STEVENSON interpolated that he had quoted instances to the contrary.

Dr. DUDFIELD, continuing, said that when he read that paragraph it brought to his mind what he called the old fallacy, that they could not have the one without the other. Dr. Stevenson had shown them that the high rate of total fertility was associated with what he might call without offence the lower strata of society. Those who worked in the public health services must know that those were the very classes of the population which were in one sense encouraged to have a large number of children, and that such people did not take full care of the children. In saying that they were encouraged to have children he meant that the State did so much for those classes, especially in more recent years. There was the maternity grant when the child was born, free education, free boots, free dinners, and he did not know what else, whereas those in higher classes had to bear the full burden of their own expenses in addition to their contributions towards the State aid just mentioned. Consequently, Classes I and II were not much encouraged to have large families. Moreover, the children in the lower strata became actual financial assets, or did so in the past, to their families, because they went to work when 12 or 13 years of age, and the family income was proportionately increased according to the number of children. One therefore saw that in the past there had been an actual inducement in the lowest classes of society to have large families. The environment of these large families in the past had been bad, and the children born had not only not been good stock, but also had been born under unfavourable conditions.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

By reason of frequent pregnancy the mothers suffered from a certain amount of insufficient nutrition, and certain of the children were born with impaired vitality. Naturally, such children would not survive and a higher mortality among them was to that extent almost inevitable. It would be interesting to know whether the decrease in total fertility which Dr. Stevenson indicated had already commenced in those lower classes would increase more rapidly in the future, having regard to the latest educational enactments. The half-timers' and child work was now to be stopped. He ventured to think that in a short time they would see that the lowest classes of society would show a decreased fertility comparable with that already observed in the higher classes. He was surprised that no reference had been made to the enormous increase in the birth-rate which had taken place in the last six months. In his own district the total number of births registered in the first three months of this year was double what it was in the corresponding part of last year. How long the present high fertility would last, he did not know. He wished to offer a criticism on the form in which Dr. Stevenson had presented his figures. He had divided the first part of his Table into 5-year periods, and the rest into 10-year periods. In his remarks on the Table his comparison was limited to 10-year periods. He said "It is evident that very much less "marriages date from 1861 to 1851 than those from 1881 to 1891." He ventured to submit that the tables as presented did not give them the information on which to base that statement. He admitted that that difficulty might be due to his not having referred to the Report on Fertility; but if Dr. Stevenson could give the figures in the decennial periods for the whole time it would help very much. He would like Dr. Stevenson to consider the arrangement of the "class" headings to the Tables. As at present set, one would think at first glance that the classes formed a continuous series. He had found it difficult in reading the Paper to appreciate or carry in his mind the discontinuity. He suggested that to show that 6 did not follow 5 but was an independent group, a heavy rule should follow 5 to break the table.

Dr. Stevenson, in reply, said he was very much obliged to them for the way in which they had received the Paper, and gratified that it should have produced such a good discussion. Many of the points suggested would certainly be very useful to him, and he thought they would be of use in throwing light upon the question generally. He must say that he had not considered the question of fresh air in relation to fertility, and he was not even now convinced that the amount of additional fresh air imbibed during the past fifty years, by at any rate Class V of the community, was sufficient to account for the fall in its fertility. He could only agree with Dr. Brownlee and Major Darwin with regard to the serious view it was necessary to take of the prospect which the returns at all events appear to indicate. With regard to Major Darwin's

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

explanation of M. March's fact, that the mortality of the first-born was greater even where the family was not yet large, but was going to be large later on, that explanation was given by M. March himself, and he thought it was undoubtedly one that must commend itself to anyone; but it depended upon the assumption that the size of the family was very largely decided by human volition. This explanation would apply where Dr. Dudfield's suggestion of the inferiority of the progeny of women living under poor conditions would not, because M. March's material, relating to workmen in State employment, was largely homogeneous as regards social class. Moreover, as M. March pointed out, the question of expense could hardly come in where there was only as yet one child and the families compared were of one class. Dr. Dudfield's suggestion would, however, apply to the comparison of large and small families in a population of mixed class, where the largest families were also, in general, the poorest. The consideration adduced by Sir Alfred Watson, that the social standard of the individuals in the classes selected was not fixed throughout the whole period, was no doubt a most important one. Still, taking them for what they were worth, these classes were all they could get at the present time. If the inquiry were repeated on several occasions, then perhaps they would have additional material which would enable comparisons to be made without risk of fallacy from this cause, because they would be able to compare the fertility of any class for marriages of a given duration at one census with the corresponding fertility at another census. Moreover, the nature of the classification used was such that its very defects rendered it largely immune from the weakness suggested. Throughout the field of industry employers and employed were for the most part grouped together, so that success in life did not as a rule imply change in occupation as laid down for census purposes. In so far as the prosperous cobbler stuck to his last, and became a boot manufacturer, his social grading under the scheme was unaffected; it was only liable to change if the cobbler took to some entirely different line of business, such as a public house or a street crossing. The second point raised by Sir Alfred Watson referred to the shortage of marriages of less than one year's duration, and suggested that that arose from the same mistake as the shortage of children under one or two years of age in the Census returns. He could have quite accepted that explanation if it had applied more or less evenly all round; but when they found that it applied to women married young to a tremendously preponderant extent, and that the undoubtedly accurate figures in the Australian returns, which were derived from actual dates of marriage and birth, showed exactly the same feature, he thought they must assume that considerations which applied in Australia also held good in this country. Of course, the fact that the variation was not only with age at marriage but with social class would be very easily explicable by Sir Alfred Watson's suggestion, because they might assume that the mistake was made chiefly by the less

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

educated classes; but he did not see why it should be more made by all classes where the wife married early than where she married later in life. There was, however, about 20 per cent. deficiency common to all ages at marriage, and this might well arise in the manner suggested. Dr. Stopes had raised the question of what was meant by fertility. When they were speaking of Census returns, he thought fertility could only mean fertility realised as the result of the birth of children, and the word had certainly never been used in the Paper in the sense of potential fertility. He was bound to say that the impression the figures had left upon him with regard to the differential fertility of the social classes was very largely in correspondence with that suggested by Dr. Dudfield. It seemed to him that although naturally tabulations of that sort would have no effect whatever upon the conduct of individuals in regard to this matter, it was well that the State should have pointed out to it that it could largely have the class of reproduction it legislated for. During the last fifty years, as Dr. Dudfield had pointed out, the State had encouraged the fertility of one class, and as a reflex of this action had discouraged that of another; and it seemed to him it had got very largely the result that its action in this matter had been calculated to call forth. In so far as this differential fertility had increased, he thought it was quite open to those who took the view Dr. Dudfield had suggested, to point to the fact that the increase of remedial social legislation which had made it easier for one class than for another to reproduce itself had had the effect which it might be expected to have, and that the class which had been encouraged had taken up a larger share of the burden of reproducing the nation. In conclusion he could only thank them once more for the way in which they received the Paper.

The following Candidates were elected Fellows of the Society:—

P. Gordon Brown, F.I.A.
Harry Freeman, A.I.A.
Rev. G. S. Hitchcock, D.D.
O. C. J. Klagge, F.I.A.
George Henry Maddox.
William Peter Rylands.
Alexander Gordon Tait.
S. P. Vivian.
Hugh H. Wolfenden.

Corporate Representatives

Harry Farr (*representing* the Cardiff Public Libraries).
Major H. S. Lees-Smith (*representing* H. S. Lees-Smith and Co.).

The following were elected Honorary Fellows:—

Professor Corrado Gini	....	Italy.
Professor Giorgio Mortara	....	Italy.
Professor Warren M. Persons	....	United States.
Dr. H. W. Methorst	....	Netherlands.
Mr. G. Findlay Shirras	....	Director of Statistics, India.
Mr. Augustus Sauerbeck	....	Resident in Switzerland.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

MISCELLANEA.

CONTENTS:

	PAGE
Crop-Cycles in the United Kingdom and in France. By H. L. MOORE	445
The Theory of Measurement of Changes in Cost of Living. By T. L. BENNET	455
The Variations of Wholesale Prices in Italy during the Great War. By C. OTTOLENGHI	463
Market Prices and Controlled Prices of Food in Moscow. By S. P. TURIN	478

CROP-CYCLES IN THE UNITED KINGDOM AND IN FRANCE.

By HENRY L. MOORE, Columbia University, New York.

IN an earlier paper on "Crop-Cycles in the United Kingdom and in "the United States,"* I gave the results of computations which seemed to show "that the yield of the leading cereal crops in the "United Kingdom tends to vary in well-defined cycles, and that, "as far as the statistics of the two countries are comparable, the "crop-cycles in the United States tend to synchronise with those "of the United Kingdom." The inquiry is carried a step further in the present paper, and the conclusion is reached that the yield of the leading cereal crops in France runs in cycles which are synchronous with those of the United Kingdom and the United States.

In the former inquiry relating to the United Kingdom, the yield of the three crops, wheat, barley and oats, during the interval 1884 to 1914, supplied the data for the investigation of periodicities. The yield of these same three crops in France, for the interval 1879 to 1913, we shall examine in the following pages.†

The relative importance of two of these crops in the agriculture of France is indicated in the comment of Dr. F. R. Rutter, of the American Department of Agriculture, who, several years ago, collected for the Department statistics referring to the cereal crops in Europe. According to Dr. Rutter, "in France wheat occupies "nearly one-half, while oats are grown on slightly more than one-"fourth of the grain area. These two cereals consequently occupy "together more than three-fourths of the entire land devoted to "the production of grain."‡

* See *Journal of the Royal Statistical Society*, May, 1919.

† The statistical tables underlying the computations and conclusions of this article are given in the Appendix.

‡ F. R. Rutter, "Cereal Production of Europe," U.S. Department of Agriculture, Bureau of Statistics, *Bulletin* 68, p. 64.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The crude statistical data forming the foundation of the subsequent computations were compiled from the *Annuaire Statistique de la France*, except for the year 1884, when quotations were taken from the *Statistique de la France, Statistique Annuelle*; and for the year 1898, when the publication *Statistique Agricole Annuelle* was used.

The raw figures of *rendement par hectare* were, in case of each crop, converted into index-numbers of yield, with the mean yield for the years 1890–1899 serving as base. In fig. 1 are drawn the graphs of the index-numbers, together with the smooth-curves, fitted by the method of least squares, indicating the trend of the figures. The deviations of the index-numbers from their respective trends supply the material for the investigation of the periodicities in the yield of the crops.

Before entering upon the quest for periodicities, we may notice fig. 2, in which the mean deviations of the French crops and the mean deviations of the crops of the United Kingdom are plotted for the purpose of exhibiting their correlation. The coefficient measuring the closeness of their association is $r = \cdot 603$, and the size of this coefficient suggests the probability of the existence, in France, of the same crop-cycles which were previously found to obtain in the United Kingdom.

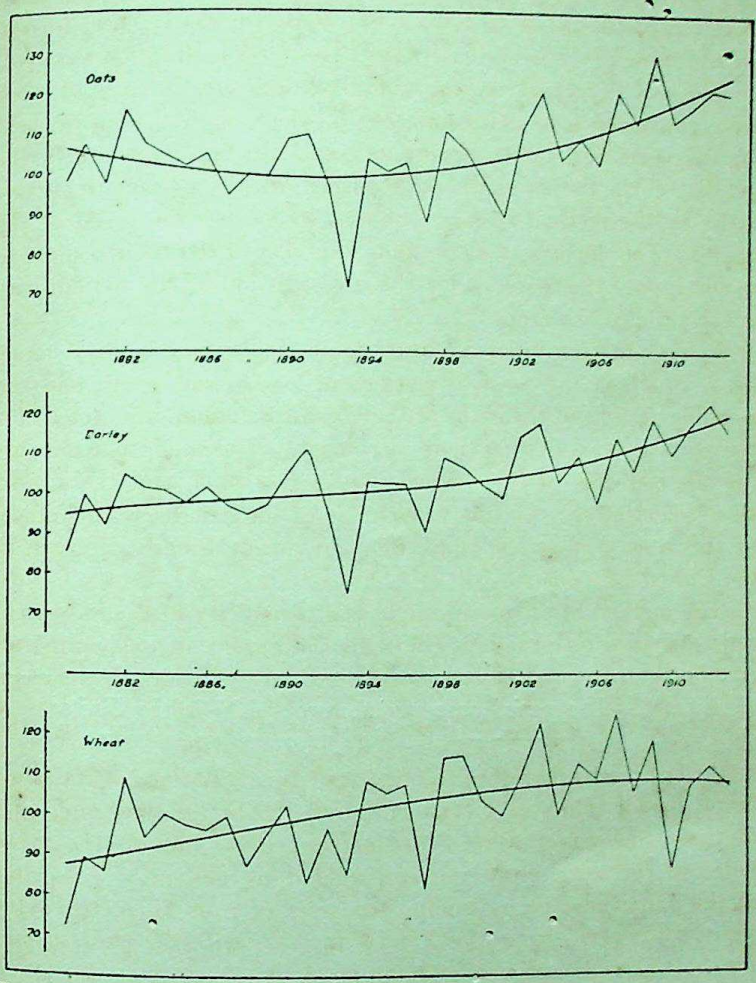
The method of bringing to light the periodicity of the crop-yield consisted in scrutinising the data to the extent of exhausting all possibilities of cycles between three and twelve years, inclusively. A curve of type $y = A_0 + A_1 \sin\left(\frac{2\pi}{T} t + e_1\right)$ was fitted, by the method of least squares, to the means of the deviations of the three crops, for all values of T between 3 and 12. After the amplitudes of these sine-curves were computed, a periodogram of the mean index of the three crops was constructed by plotting the squares of the amplitudes corresponding to cycles of from three to twelve years. The periodogram for France, together with the periodogram for the United Kingdom is given in fig. 3.

An inspection of the two periodograms shows that the two graphs take similar courses up to seven years when the French curve, in contrast with the one for the United Kingdom, gives a sensible value for the square of the amplitude. After eight years the French curve falls away much more rapidly than the corresponding curve for the United Kingdom. The two periodograms seem to establish the existence of a cycle of approximately four years; they suggest the possibility of one of about six years; and they leave room for a probable hypothesis as to a cycle of about eight years.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

FIG. 1.—*Index-numbers of the crop-yield in France.*



Top curve :

The yield of oats ; trend, $y = 100 \cdot 0 + \cdot 484x + \cdot 0532x^2 + \cdot 00022x^3$, origin at 1896.

Middle curve :

The yield of barley ; trend, $y = 101 \cdot 2 + \cdot 411x + \cdot 0209x^2 + \cdot 00107x^3$, origin at 1896.

Bottom curve :

The yield of wheat ; trend, $y = 103 \cdot 2 + \cdot 702x - \cdot 0189x^2 - \cdot 00038x^3$, origin at 1896.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

FIG. 2.—*Correlation of the yield of crops in the United Kingdom, - - - - - -, and in France, ————.*

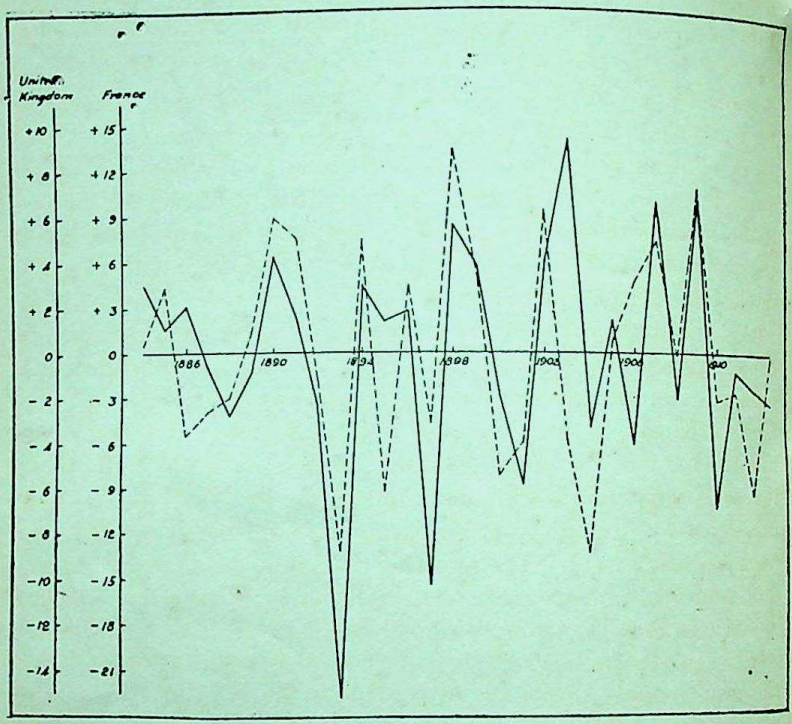
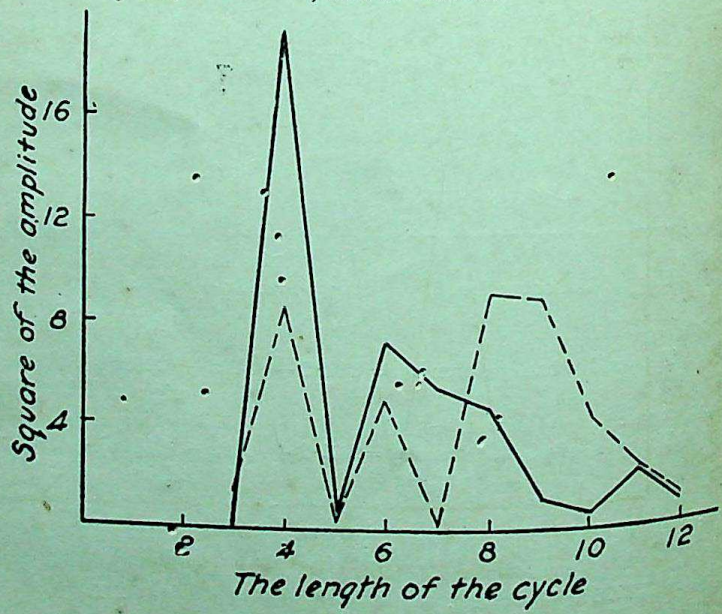


FIG. 3.—*The periodograms of the crop-yield in the United Kingdom, - - - - - -, and in France.* ————.

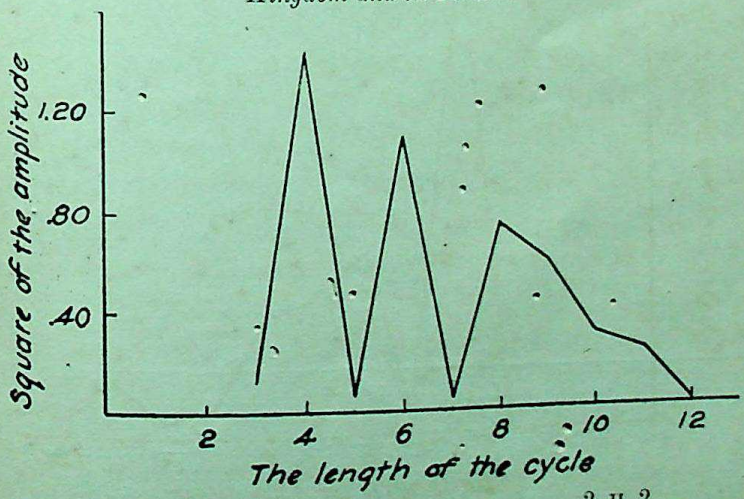


CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

In order to gain a different light upon this conclusion, the data for the deviations of the crop-yield in the United Kingdom and in France were combined and scrutinised in a search for possible cycles. The method of combining the data needs to be described. A moment ago we saw that the correlation between the deviations for the United Kingdom and for France was measured by $r = \cdot 603$. In computing the coefficient of correlation it was found that the variabilities of the yield for the United Kingdom and for France, if the variabilities are measured by the standard deviations, are in the ratio of 4·6 to 7·55. It was obvious, therefore, that when the deviations of the crop-yield in the two countries were combined with a view to discovering, by means of a periodogram, their common cycles, an allowance must be made for this difference in the variabilities. Accordingly the mean deviations for the crop-yield in the United Kingdom were, in case of the quotation for each year, divided by 4·6, the standard deviation for the whole epoch under investigation ; and in a similar manner, the French deviations were, for each year, divided by 7·55, the corresponding standard deviation for the French yield. The resulting deviations for the United Kingdom and for France, expressed in terms of their respective standard deviations, were then simply added together, and the combined data were then scrutinised for cycles. The periodogram descriptive of the result is given in fig. 4. The peaks at four, six and eight years confirm the conclusion which we drew from a comparison of the periodograms referring to the crops of the two countries.

FIG. 4.—*The periodogram of the combined crop-yield in the United Kingdom and in France.*

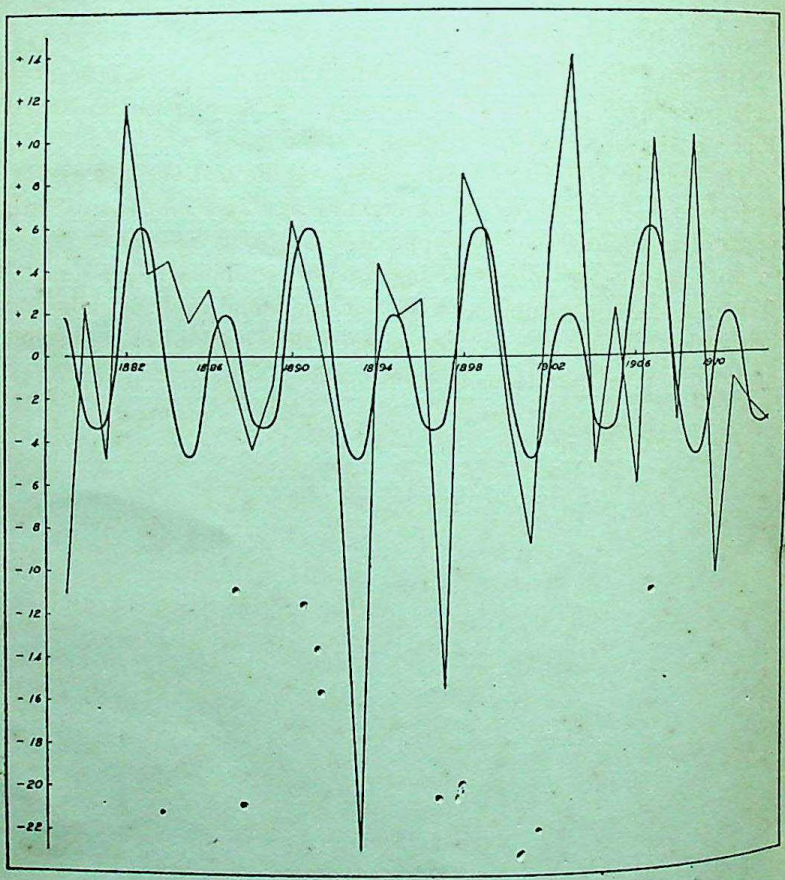


CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

For the present we make no use of the suggested cycle of six years. From the nature of the run of the periodograms for the yield of the two countries taken both separately and in combination, we assume the existence of cycles of approximately four and eight years, and then seek to determine their amplitudes, their mode of combination, and the dates of maximum values. In fig. 5 a compound cycle of eight and four years is fitted, by the method of least squares, to the data of the crop-yield of France, and we find that the principal maximum ordinates are at about 1882, 1890, 1898 and 1906, with the minor maxima at about four years from these dates.

FIG. 5.—*Cycles in the yield of crops in France.*



Equation to the smooth curve :

$$y = -\cdot 007 + 2\cdot 17 \sin\left(\frac{2\pi}{8}t + 292^\circ\ 56'\right) + 4\cdot 40 \sin\left(\frac{4\pi}{8}t + 118^\circ\ 51'\right),$$

origin at 1879.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Fig. 6 enables us to show the results of our inquiry in graphical comparison. The top curve in this figure exhibits a compound eight and four years' cycle, fitted by the method of least squares to the combined deviations for the United Kingdom and France; the second and third curves give compound eight and four years' cycles for the United Kingdom and France taken separately; and the bottom graph gives the eight years' cycle which, in the earlier study, we found to exist in the index-number of the yield of nine crops in the United States. The conspectus of the graphs shows that in all four curves the principal maximum ordinates are at about 1890, 1898, 1906, 1914, and that when the four years' cycle is combined with the cycle of eight years, the minor maxima occur at approximately four years subsequently to the dates of the principal maxima.

We conclude—

(1) That there are well-defined, approximately synchronous eight years' cycles in the yield per acre of the crops in the United Kingdom, France, and the United States;

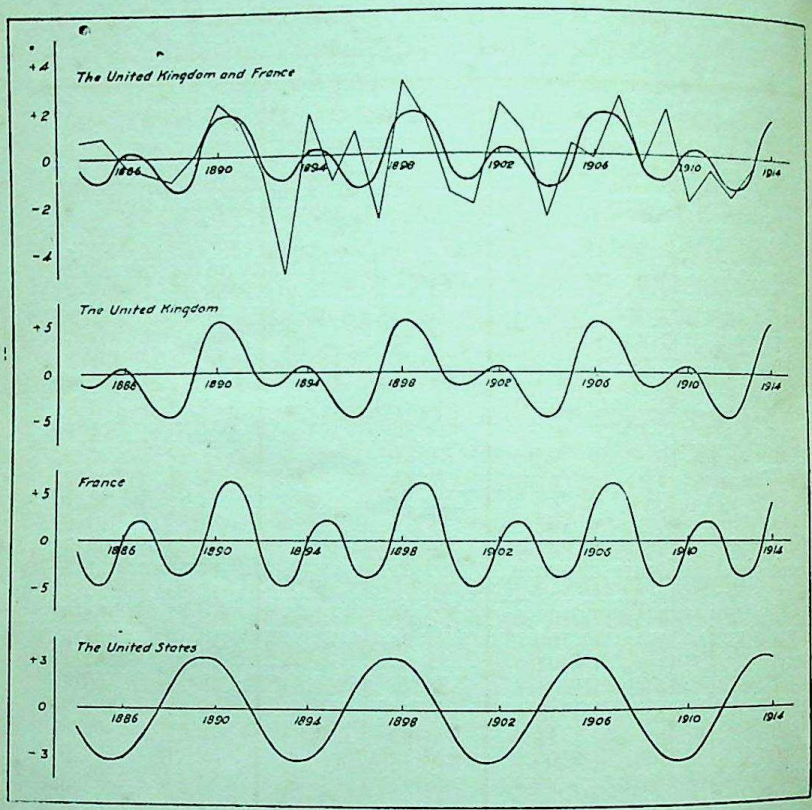
(2) That in the United Kingdom and France the eight years' cycle is a compound cycle of eight years and four years with principal and minor maxima approximately four years apart;

(3) That the periodograms suggest the possibility of a six years' cycle which, when combined with the compound cycle of eight and four years, will produce an interference that may, in part, account for the observed variations in crop cycles.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

FIG. 6.—*Cycles in the yield of crops in the United Kingdom and France, the United Kingdom, France, and the United States.*



The United Kingdom and France :

$$y = -\cdot 008 + \cdot 87 \sin\left(\frac{2\pi}{8}t + 149^\circ\ 18'\right) + 1\cdot 20 \sin\left(\frac{4\pi}{8}t + 229^\circ\ 23'\right),$$

origin at 1884.

The United Kingdom :

$$y = \cdot 14 + 3\cdot 02 \sin\left(\frac{2\pi}{8}t + 142^\circ\ 0'\right) + 2\cdot 94 \sin\left(\frac{4\pi}{8}t + 261^\circ\ 3'\right),$$

origin at 1884.

France :

$$y = -\cdot 007 + 2\cdot 17 \sin\left(\frac{2\pi}{8}t + 292^\circ\ 56'\right) + 4\cdot 40 \sin\left(\frac{4\pi}{8}t + 118^\circ\ 51'\right).$$

origin at 1879.

The United States :

$$y = 3\cdot 31 \sin\left(\frac{2\pi}{8}t + 200^\circ\ 49'\right),$$ origin at 1884.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

APPENDIX.

TABLE I.—*The yield of crops in France.*

In the index-numbers, the mean yield for the years 1890–99 = 100.

Year.	Wheat.		Oats.		Barley.	
	Rendement par hectare, hectolitres.	Index-numbers.	Rendement par hectare, hectolitres.	Index-numbers.	Rendement par hectare, hectolitres.	Index-numbers.
1879	11·67	72·2	22·47	93·3	15·88	85·2
1880	14·48	89·5	24·47	107·0	18·55	99·6
1881	13·91	86·0	22·23	97·2	17·17	92·2
1882 ...	17·68	109·3	25·50	111·5	19·49	104·6
1883	15·25	94·3	24·48	107·0	18·86	101·2
1884	16·20	100·2	23·82	104·2	18·74	100·6
1885	15·79	97·6	23·21	101·5	18·22	97·8
1886	15·62	96·6	23·89	104·5	18·90	101·4
1887	16·14	99·8	21·54	94·2	18·09	97·1
1888	14·15	87·5	22·75	99·5	17·68	94·9
1889	15·39	95·2	22·68	99·2	18·09	97·1
1890	16·55	102·4	24·76	108·3	19·54	104·9
1891 ...	13·49	83·4	25·01	109·4	20·78	111·5
1892	15·67	96·9	22·03	96·3	17·73	95·2
1893	13·82	85·5	16·28	71·2	13·99	75·1
1894	17·52	108·3	23·67	103·5	19·17	102·9
1895	17·13	105·9	23·91	100·2	19·10	102·5
1896	17·42	107·7	23·49	102·7	19·02	102·1
1897	13·19	81·6	20·10	87·9	16·90	90·7
1898	18·40	113·9	25·22	110·3	20·28	108·9
1899	18·50	114·4	24·20	105·8	19·80	106·3
1900	16·71	103·3	22·40	97·9	19·01	102·0
1901	16·12	99·7	20·43	89·3	18·40	98·8
1802	17·60	108·8	25·46	111·3	21·30	114·3
1803	19·81	122·5	27·53	120·4	21·91	117·6
1904	16·13	99·8	23·69	103·6	19·17	102·9
1905	18·16	112·3	24·92	109·0	20·36	109·3
1906	17·57	108·7	23·49	102·7	18·15	97·4
1907	20·20	124·9	27·66	120·9	21·27	114·2
1908	17·06	105·5	25·84	113·0	19·64	105·4
1909	19·13	118·3	29·72	130·0	22·14	118·8
1910	13·85	85·7	25·93	113·4	20·47	109·9
1911	17·26	106·7	26·78	117·1	21·74	116·7
1912	18·03	111·5	27·75	121·3	22·76	122·2
1913	17·29	106·9	27·55	120·5	21·37	114·7

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

TABLE II.—*Deviations from their general trend of the index-numbers of the yield of crops in France.*

Year.	Crop.			Mean deviation.
	Wheat.	Oats.	Barley.	
1879	− 15·5	− 7·8	− 9·8	− 11·03
1880	+ 0·8	+ 2·0	+ 4·0	+ 2·27
1881	− 3·7	− 6·8	− 3·9	− 4·80
1882	+ 18·6	+ 8·4	+ 8·0	+ 11·67
1883	+ 2·6	+ 4·8	+ 4·2	+ 3·87
1884	+ 7·5	+ 2·7	+ 3·2	+ 4·47
1885	+ 3·9	+ 0·7	0·0	+ 1·53
1886	+ 1·9	+ 4·2	+ 3·3	+ 3·13
1887	+ 4·2	− 5·6	− 1·3	− 0·90
1888	− 9·1	+ 0·1	− 3·8	− 4·27
1889	− 2·3	+ 0·1	− 1·9	− 1·37
1890	+ 4·0	+ 9·3	+ 5·7	+ 6·33
1891	− 15·9	+ 10·5	+ 12·0	+ 2·20
1892	− 3·2	− 2·6	− 4·6	− 3·47
1893	− 15·4	− 27·8	− 25·0	− 22·73
1894	+ 6·6	+ 4·3	+ 2·5	+ 4·47
1895	+ 3·4	+ 0·6	+ 1·7	+ 1·90
1896	+ 4·5	+ 2·7	+ 0·9	+ 2·70
1897	− 22·3	− 12·6	− 10·9	− 15·27
1898	+ 9·4	+ 9·1	+ 6·8	+ 8·43
1899	+ 9·3	+ 3·9	+ 3·7	+ 5·63
1900	− 2·4	− 4·9	− 1·2	− 2·83
1901	− 6·5	− 14·5	− 5·1	− 8·70
1902	+ 2·1	+ 6·4	+ 9·7	+ 6·07
1903	+ 15·4	+ 14·3	+ 12·1	+ 13·93
1904	− 7·6	− 3·8	− 3·5	− 4·97
1905	+ 4·6	+ 0·2	+ 1·9	+ 2·23
1906	+ 0·8	− 7·7	− 11·1	− 6·00
1907	+ 16·8	+ 8·8	+ 4·5	+ 10·03
1908	− 2·7	− 0·9	− 5·6	− 3·07
1909	+ 10·0	+ 14·2	+ 6·4	+ 10·20
1910	− 22·6	− 4·4	− 4·1	− 10·37
1911	− 1·5	− 2·9	+ 1·0	− 1·13
1912	+ 3·5	− 1·0	+ 4·7	− 2·40
1913	− 0·9	− 4·2	− 4·8	− 3·30

TABLE III.—*The periodograms of the yield of crops in the United Kingdom and in France.*

A^2 = The square of the amplitude of the specified cycle.

Length of the cycle (years).	A^2		
	United Kingdom.	France.	United Kingdom and France.
3	1·5584	0·0565	0·1115
4	8·6338	19·3468	1·4413
5	0·3481	0·5765	0·0695
6	5·0609	7·3777	1·0962
7	0·1388	5·5744	0·0462
8	9·1389	4·6975	0·7496
9	8·9935	1·0978	0·5946
10	4·2390	0·5490	0·3097
11	2·2470	2·1887	0·2317
12	0·8761	0·8748	0·0249

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Theory of Measurement of Changes in Cost of Living.

By T. L. Bennet, *of the Ministry of Finance, Cairo.**

The following investigation was made in connection with an enquiry into cost of living now being made by the Egyptian Government, with the primary object of regulating the war gratuities of its lowest grade employees. The analysis indicates that if consumption and prices are recorded at short intervals, then the small changes of war gratuity necessary to maintain constant satisfaction can be computed by a simple and uncontroversial method, but if a considerable change of satisfaction is allowed to occur before any action is taken, then the estimation of the change of war gratuity necessary to restore the original satisfaction must involve a considerable amount of guess work and controversy.

A method is suggested by which a change of expenditure can be analysed into two parts, one corresponding to changes in cost of living and the other to changes in standard of living.

The two suggested applications of the method deal with the theory of regulation of wages to maintain or restore satisfaction on the simplified assumption that changes of prices are independent of changes of wages. The writer does not, of course, necessarily advocate that in practice the regulation of wages should be considered independently of the regulation of prices.

1. The fundamental idea is that in a short period the rate of increase of expenditure of a family can be divided into two parts x and l, where x measures the increase due to change of prices and l measures the increase due to increase of consumption; x is the total of the various quantities consumed, each multiplied by the appropriate rate of increase of price, and l is the total of the prices of commodities, each multiplied by the rate of increase in its consumption. Write q for quantity consumed, and p for price per unit.

In order to compare the marginal satisfaction derived from different commodities, we can only assume that a competent housekeeper will secure the same marginal satisfaction ($M\epsilon$) from the last dose of expenditure (ϵ) applied to each commodity. Then the increase in satisfaction derived from an increase of consumption

* The author, being unable to see this article in proof, has asked that it should be revised for the press. The alterations are insignificant, except that two foot-notes and a sentence shown in [ ] have been added.

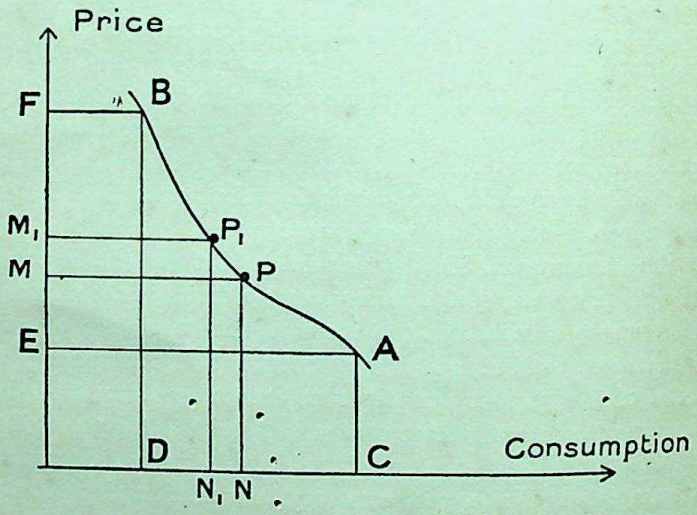
CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

δq is $M\epsilon \times \frac{p}{\epsilon} \times \delta q$, and the sum of these increases is $\Sigma np\delta q$, and the rate of increase is Ml. Hence l is a measure of change in standard of living, while x measures the rate of increase of the cost of living due to the increase of prices.

2. Further we may divide the change of expenditure in a finite period into two corresponding parts X and L, where X is obtained by taking each infinitesimal increase of price of each commodity, multiplying by the consumption at the time that increase occurred, and adding up for the whole period and for all commodities. Similarly L is obtained by multiplying infinitesimal changes of consumption by prices and adding up. Then X is the aggregate of all the increases in cost of living, and L is the aggregate of all the increases in satisfaction from consumption, converted to an expenditure basis by means of the value of M at the time it occurred.

X and L may be exhibited more clearly by means of diagrams on which the variation of consumption with price is plotted for each commodity.



Thus let P represent a certain commodity at a certain time, PM being its consumption and PN its price. If P_1 represents the same commodity a short time later, then the contributions of that commodity for that interval to X and L are represented by the areas PMM_1P_1 and PNN_1P_1 respectively.

Thus if A represents the commodity at the beginning of the period and B at the end, then the contributions of the commodity to X and L are represented by the areas AEFB, ACDB respectively.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The figure illustrates the common case in which consumption decreases as price increases, and therefore the contributions are of opposite signs.

Failing other information we should naturally assume the price consumption curves to run straight from point to point, and with that assumption we should have, P, Q being price and consumption at the beginning of the period and p, q at the end.

Increase of expenditure—

$$\Sigma e - \Sigma E = \Sigma pq - \Sigma PQ.$$

Of that, aggregate of increases in cost of living:

$$X = \Sigma \tfrac{1}{2}(q + Q)(p - P) = \tfrac{1}{2}\Sigma(e - E) + \tfrac{1}{2}\Sigma(pQ - Pq)$$

and aggregate of cost of increases in standard of living:

$$L = \Sigma \tfrac{1}{2}(q - Q)(p + P) = \tfrac{1}{2}\Sigma(e - E) - \tfrac{1}{2}\Sigma(pQ - Pq).*$$

Taking for example the data as to 17 commodities given by Dr. Bowley in Table I of his Paper.†

$$\Sigma pQ = 521\cdot6 \qquad \Sigma e = \Sigma pq = 455\cdot5$$
$$\Sigma Pq = 225\cdot5 \qquad \Sigma E = \Sigma PQ = 246\cdot5$$
$$\text{Difference } 296\cdot1 \qquad \text{Difference } 209\cdot0$$
$$\Sigma \tfrac{1}{2}(e - E) = 104\cdot5$$
$$\Sigma \tfrac{1}{2}(pQ - Pq) = 148\cdot0$$
$$X = 252\cdot5$$
$$L = -43\cdot5$$

3. Since the division of increase of expenditure into two parts x and l may appear artificial, it may well be illustrated by a concrete example covering a very short period only. For the sake of that example let us assume that for a certain family at a certain time butter and margarine formed a complete connected group, in the sense that (subject to changes in satisfaction) butter and margarine were interchangeable with one another, but neither butter nor margarine were interchangeable with any other commodity.

	1st week.			2nd week.			Change.	
	(time t)			(time $t + \delta t$)				
	q	p	e	$q+\delta q$	$p+\delta p$	$e+\delta e$	δq	δp
	oz.	d/oz.	d.	oz.	d/oz.	d.	oz.	d/oz.
Butter....	8	2	16	7	$2\frac{1}{4}$	$15\frac{3}{4}$	-1	$+\frac{1}{4}$
Margarine	8	1	8	$9\frac{1}{4}$	$1\frac{1}{4}$	$11\frac{1}{2}$	$+1\frac{1}{4}$	$+\frac{1}{4}$
			24			$27\frac{1}{4}$		

* [Hence the standard of living is unchanged, raised or lowered, according as $\Sigma q \cdot \frac{1}{2}(p + P)$ is equal to, greater, or less than $\Sigma Q \cdot \frac{1}{2}(p + P)$.]

† *Journal of Royal Statistical Society*, May, 1919, p. 344.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The analysis states that the increase of expenditure can be separated into

$$x = \Sigma q \delta p = 8 \times \tfrac{1}{4} + 8 \times \tfrac{1}{4} = 4$$
$$l = \Sigma p \delta q = 2 \times (-1) + 1 \times 1\tfrac{1}{4} = -\tfrac{3}{4}$$

so that the increase of expenditure $3\frac{1}{4}d.$ is to be attributed to $4d.$ rise of prices and $\frac{3}{4}d.$ reduction in standard of living.

As far as this particular step is concerned, the above is no mere mathematical refinement, but is a common sense statement of fact, about which two opinions are hardly possible.

It appears to be the case that such division of expenditure into two parts is always possible if the step taken is small enough to be treated as infinitesimal. It is only when it is attempted to take a big step in one operation that difficulties arise. For though the loss of satisfaction involved in substituting $1\frac{1}{4}$ oz. per week of margarine for 1 oz. per week of butter varies widely for different persons, and even for the same person at different times, yet there appears no reason for questioning that for the particular housekeeper and the particular time considered above, that sacrifice was equivalent to $\frac{3}{4}d.$ per week, neither more nor less.

4. *First Application.*—Let us assume that it is required to vary wages continuously so as to give constant satisfaction with varying prices, in so far as the consumption of certain commodities is concerned. As prices vary and satisfaction remains constant, consumption will in general vary, and the present analysis does not determine the variation in consumption of single commodities. It does tell us, however, that those variations must be such as to make l zero, and then the whole rate of increase of expenditure required is x. We may clearly re-write this as follows: The proportional rate of increase in the part of wages concerned should be the weighted mean of the proportional rates of increase in prices, each weighted according to the present expenditure on the commodity concerned. This formula applies only to short periods.

This result is, of course, familiar. It should be noted, however, that weights will in general vary in course of time as prices vary. If a commodity gradually disappears from consumption its weight will diminish and finally vanish.

5. *Second Application.*—Given consumption and prices at the beginning and end of a period, let us attempt to determine what increase of wages should be given at the end of the period to restore the initial satisfaction. We are on fairly safe ground in making the division of the change of expenditure into the two parts X and L (provided that we know, or can make some reasonable assumption as to the course of the price-consumption curves), where L is the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

aggregate of all the small losses of satisfaction incurred, each converted to an expenditure basis by means of the value of M at the time it was incurred. But when we try to calculate the additional wages required, we are faced by two difficulties.

The more serious difficulty is that we cannot say to what extent the losses of satisfaction have made themselves good by mere lapse of time. When a change of diet is forced upon a family they incur a certain immediate loss of satisfaction which diminishes (or perhaps in some cases increases) in course of time. No attempt is here made to discuss the amount of that diminution or increase, as to which there is wide scope for difference of opinion, and little possibility of collecting numerical data. In what follows that diminution or increase will be ignored.

The second difficulty relates to the variations of M. For if M was considerably less at the end of the period than it was on an average when the losses of satisfaction occurred, then the increase of wages necessary to restore all the lost satisfaction would be considerably greater than L.

Now as far as the household commodities commonly consumed are concerned, there is a certain consumption which would give the maximum possible satisfaction according to the desires of a particular class at a particular time. M must be zero if that maximum satisfaction is attained. Further, M must be inversely proportional to the purchasing power of money, and the thing which it is desired to measure is the difference between the actual consumption and the consumption which would give maximum satisfaction. Here the result obtained by the analysis in the appendix (equation (10)) appears not unreasonable; that the marginal pennyworth of satisfaction is approximately proportional to the defect from maximum satisfaction and inversely proportional to the extra expenditure necessary at present prices to make that defect good. At least it is true that if prices and expenditure all rise at one proportional rate, consumption and therefore satisfaction will be constant, and M will decrease at the same proportional rate.

[In equation (4) of the Appendix it is shown that the rate of change of satisfaction is M times the rate of change of l (if $\frac{\delta s}{\delta t}$ is zero as argued in the Appendix, paragraph 2). Hence the whole change in satisfaction is L multiplied by some intermediate value of M, and the geometric mean of its initial and final values gives a reasonable approximation.]

Referring again for example to the data referred to above, we notice that all 17 of the price ratios except two lay between 1·5

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

and 2·3. Hence we may probably assume that the values of the 1/M probably lay between the following limits:

1914	assumed unity
1918 (June)	1·5 to 2·3

Mean value of 1/M 1914 to 1918 was $\sqrt{1\cdot5}$ to $\sqrt{2\cdot3}$, *i.e.*, 1·22 to 1·52.

Hence we may conclude that the ratio between mean value of 1/M over the period and its value in June, 1918, was between 1·2 and 1·5, and hence that the added expenditure which would in June, 1918, restore the lost satisfaction was between 1·2 and 1·5 times 43·5 pence, *i.e.*, between 52·2 pence and 65·3 pence.* This would bring the total expenditure on the seventeen commodities to between 508 and 521 pence.

Thus it might be put forward as a basis for discussion that as far as those 17 commodities are concerned the expenditure which would in June, 1918, give the same satisfaction as the expenditure of 246·5 pence in 1914 is within sixpence of 515 pence.

It is further suggested that if a proposal is put forward for modifying a result so calculated on the ground of change in the scheme of desires of the class concerned for different commodities, the onus of proof in general lies on the supporters of the modification.

Appendix.

The foregoing argument in mathematical form.

1. For the sake of simplicity we will consider only three commodities, but the method is applicable to any number. Suppose, then, that at one time a certain family consumes quantities q_1, q_2, q_3 of them, pays prices p_1, p_2, p_3 for them, has expenditure E, and derives satisfaction S (q_1, q_2, q_3, t) from the consumption.

* [This measurement of the loss of satisfaction may be compared with that suggested on pp. 351–2 *Journal of the Royal Statistical Society*, May, 1919. There it is argued that a wage $\Sigma QP \times \frac{\Sigma qp}{\Sigma qP}$ would give the same satisfaction in 1918 as ΣQP in 1914. Write $p = P(1 + r)$. The addition necessary to the wage Σqp is $\frac{\Sigma qP(1 + r)}{\Sigma qP}$. $\Sigma(Q - q)P = A_1$. In the present Paper the addition suggested is (Mean $\sqrt{1 + r}$). $\Sigma(Q - q)P\left(1 + \frac{r}{2}\right) = A_2$. A_1 tends to $(1 + \bar{r})\,\Sigma(Q - q)P$, and A_2 tends to $(1 + \bar{r})^{\frac{1}{2}}\left(1 + \frac{\bar{r}}{2}\right)\Sigma(Q - q)P$, where $\bar{r}$ is some mean value of the various r's, if the r's were not much dispersed. If $\bar{r}$ were small and $\bar{r}^2$ neglected, A_1 and A_2 would be approximately the same. Actually in this case r equals 1 nearly, and $\Sigma(Q - q)P\left(1 + \frac{r}{2}\right)$ is greater than $\left(1 + \frac{\bar{r}}{2}\right)$. $\Sigma(Q - q)P$, with the result that $A_1 = 42$, $A_2 = 59$.]

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Further, let us suppose that the family obtains the same marginal satisfaction Mϵ from the last dose of expenditure ϵ applied to each of them, so that

$$M\epsilon = \frac{\partial S}{\partial q_1}\frac{\epsilon}{p_1} = \frac{\partial S}{\partial q_2}\frac{\epsilon}{p_2} = \frac{\partial S}{\partial q_3}\cdot\frac{\epsilon}{p_3}.$$

$$i.e., \; M = \frac{1}{p_1}\frac{\partial S}{\partial q_1} = \frac{1}{p_2}\frac{\partial S}{\partial q_2} = \frac{1}{p_3}\frac{\partial S}{\partial q_3} \qquad (1)$$

These three equations (1) together with

$$E = p_1\, q_1 + p_2\, q_2 + p_3\, q_3 \qquad (2)$$

determine the four unknowns q_1, q_2, q_3, M in terms of p_1, p_2, p_3 and E.

Differentiating (2) with respect to t we have (dots denoting differentiation with respect to the time):

$$\left.\begin{aligned} \dot{E} &= x + l \\ \text{where} \quad x &= q_1\, \dot{p}_1 + q_2\, \dot{p}_2 + q_3\, \dot{p}_3 \\ l &= p_1\, \dot{q}_1 + p_2\, \dot{q}_2 + p_3\, \dot{q}_3 \end{aligned}\right\} \qquad (3)$$

also

$$\dot{S} = \frac{\partial S}{\partial q_1}\dot{q}_1 + \frac{\partial S}{\partial q_2}\dot{q}_2 + \frac{\partial S}{\partial q_3}\dot{q}_3 + \frac{\partial S}{\partial t}$$

Hence from (1) $\qquad \dot{S} = Ml + \dfrac{\partial S}{\partial t}$

i.e., Ml is the part of the rate of change of S which depends on the rate of change of the q's.

Again, differentiating (1) with respect to the time we have three equations (5) involving second differential coefficients of S.

If now the rates of change $\dot{p}_1$, $\dot{p}_2$, $\dot{p}_3$ are given, and either E or S, then the five equations (3), (4) and (5) will serve to determine the five unknowns $\dot{q}_1$, $\dot{q}_2$, $\dot{q}_3$, $\dot{M}$ and S or E.

If instead of being taken as known numbers $\dot{p}_1$, $\dot{p}_2$, $\dot{p}_3$ are taken as known functions of q_1, q_2, q_3, then we have three more equations, giving eight equations to determine eight unknowns.

2. In order to illustrate the nature of M, let us now assume that S does not contain the time explicitly. This is untrue for a single family, but is probably approximately true for the aggregate of a large number of families of the same class, provided the analysis is not carried over excessive intervals of time.

On this assumption, there are clearly certain consumptions q_{m1}, q_{m2}, q_{m3} which will make S an absolute maximum, for of the commodities usually considered in cost of living investigations no family desires an unlimited quantity.

Let S_m be that maximum satisfaction, and let

$$E_m = p_1\, q_{m1} + p_2\, q_{m2} + p_3\, q_{m3} \qquad (6)$$

be the necessary expenditure.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The simplest form that can be assumed for S to satisfy these conditions is

$$S = S_m - \tfrac{1}{2} a_1 (q_{m1} - q_1)^2 - \tfrac{1}{2} a_2 (q_{m2} - q_2)^2 - \tfrac{1}{2} a_3 (q_{m3} - q_3)^2 - b_1 (q_{m2} - q_2)(q_{m3} - q_3) - b_2 (q_{m3} - q_3)(q_{m1} - q_1) - b_3 (q_{m1} - q_1)(q_{m2} - q_2) \quad (7)$$

where the a's and b's are constants, and such that the quadratic expression cannot be positive.

Equations (1) then become

$$\left.\begin{aligned} Mp_1 &= a_1 (q_{m1} - q_1) + b_3 (q_{m2} - q_2) + b_2 (q_{m3} - q_3) \\ Mp_2 &= b_3 (q_{m1} - q_1) + a_2 (q_{m2} - q_2) + b_1 (q_{m3} - q_3) \\ Mp_3 &= b_2 (q_{m1} - q_1) + b_1 (q_{m2} - q_2) + a_3 (q_{m3} - q_3) \end{aligned}\right\} \quad (8)$$

Solving these three linear equations for $(q_{m1} - q_1)$, $(q_{m2} - q_2)$, $(q_{m3} - q_3)$ and substituting in the equation

$$E_m - E = p_1 (q_{m1} - q_1) + p_2 (q_{m2} - q_2) + p_3 (q_{m3} - q_3)$$

we obtain

$$M = \frac{E_m - E}{\text{homogeneous quadratic function of the } p\text{'s}} \quad (9)$$

Again, multiplying the three equations (8) by $(q_{m1} - q_1)$, $(q_{m2} - q_2)$, $(q_{m3} - q_3)$ and adding we obtain

$$M (E_m - E) = 2 (S_m - S)$$

i.e.,

$$M = 2 \frac{S_m - S}{E_m - E} \quad (10)$$

It may be noticed that if the values of the p's and q's and their rates of change could be observed on at least two occasions, equations (8) and their differentials with respect to the time would yield twelve equations, to determine the ratios to one another of the thirteen following quantities; two M's, two $\dot{M}$'s, three a's, three b's and the three quantities

$$\begin{aligned} &a_1 q_{m1} + b_3 q_{m2} + b_2 q_{m3} \\ &b_3 q_{m1} + a_2 q_{m2} + b_1 q_{m3} \\ &b_2 q_{m1} + b_1 q_{m2} + a_3 q_{m3} \end{aligned}$$

If there were n commodities in question, such observations would be sufficient to determine the ratio of constants if made on m occasions, where

$$2mn \nless 2m + n + n(n-1)/2 + n - 1$$

i.e.,

$$m \nless \frac{n^2 + 3n - 2}{4(n-1)}$$

If such observations could be collected, however, they would probably spread over such a long interval of time that the assumption that S does not involve t explicitly would be untenable.

It is, however, perhaps worthy of future consideration whether on physiological, chemical or other grounds it would be possible to introduce any change of variables which would cut out most of the product terms in S, so reducing the number of constants to be determined to a manageable magnitude.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

The Variations of Wholesale Prices in Italy during the Great War.

By Professor Costantino Ottolenghi.

Introductory Note.

The aim of the present study is to calculate the variations in the wholesale prices of commodities which took place in Italy during the war, and to point out their main features. Since, from the statistical character of the problem, it is not possible to consider the price of all commodities, the chief difficulties consist in the selection of commodities whose price-variations will express those of the great majority of the goods which constitute the internal trade and in the *calculation* of the index-numbers of these prices, whether considered singly, in groups, or in the aggregate. These two difficulties are examined from the theoretical point of view in the first part of this essay, in which, also, are set forth some principles of a general nature, which can be applied in various countries, with such differences of detail as may be suggested by differences in the field of application. It is obvious that the principles must vary according as the index is constructed to measure variations in the value of money, in the cost of living, or in the price of commodities necessary to the existence or for the maintenance of the standard of life of the population.

Part I.—The Construction of a System of Index-Numbers of Wholesale Prices for a given Country.

Summary.—(*a*) *Criteria for the selection of commodities whose price variations, taken in the mass, shall express those of the bulk of the commodities entering into trade.* (*b*) *Determination of the weights to be given to the prices of the individual commodities selected.* (*c*) *The calculation of the weighted index-number, special and general.*

The critical analysis of the principal systems which may be adopted in the construction of wholesale price index-numbers has been made at various times by various writers and by various statistical offices.[1] In this attempt, after making all possible use

[1] Those worthy of special reference are: *Report on Wholesale and Retail Prices in the United Kingdom in* 1902 *with comparative statistical tables for a series of years.* London, 1903; "Index Numbers of Wholesale Prices in the United States and Foreign Countries," by Wesley C. Mitchell, in the *Bulletin of the United States Bureau of Labour Statistics.* July, 1915. Washington.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of the researches of my predecessors, I have set down synthetically what I conceive to be the methodologic principles which should form the basis for the construction of index-numbers of wholesale prices.

(*a*) *Criteria for the selection of commodities whose price variations, taken in the aggregate, will express those of the bulk of the commodities entering into trade.*

In general, the selection of commodities is made empirically; it is not ascertained if the price-variations of the goods chosen approximately represent the general variation in the price of the country's merchandise as a whole; no justification is offered for the choice, and no attempt is made to discover if the number and the character of the goods chosen are sufficient and appropriate for the construction of a general index-number. In order to exclude the effect of empirical methods, I hold that the selection should be based on the following criteria, which are interdependent and complementary.

(1) *The technico-economic importance of the commodities in the economic life of the population.*—Commodities which are important in the economic life of a nation constitute, generally speaking, a large portion of its trade; but there are some which, although of essential utility, count for little, quantitatively speaking, in the total trade, and, moreover, do not appear in the trade statistics, either because, owing to their small bulk, they make no contribution worth mentioning to the railway figures, or because they are largely consumed where they are produced. It is evident that the commodities which are most useful in the nation's economic life should be those selected, independently of their value. It is true that there exists no fixed standard for measuring this concrete economic utility, but it is possible to lay down a principle based on the division of popular requirements into necessaries, semi-necessaries, and luxuries. The classification is not in doubt except as regards the second category.

(2) *The economic importance of the commodities in relation to the production of the country.*—A system of index-numbers of internal prices should always take into account the agricultural or industrial products of the country, in which the prices are of supreme importance, since they give rise to immense movements of labour and capital, even when the goods in question are not actual necessaries.

(3) *The amount contributed by the commodities to the value of the total trade of the country, internal and external.*—The amount of external trade is shown by the figures of exportation and

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

importation, and those goods should be chosen which contribute most largely to the total value of the foreign trade and to the internal commercial activity, to which the index-numbers are to relate. The internal trade may be valued on the basis of the quantities carried, or on that of the amount imported and produced.

We should now enquire what aggregate value the group of selected commodities ought to have in order that their price-variations may represent the general variation in prices. In this connection we may recall a note by Professor Pantaleoni which lies forgotten in a mass of statistical literature.

Pantaleoni, in order to calculate the index-number of foreign trade[1] prices, since it is impossible to include all the commodities exported and imported, chooses, from among all those passing through the customs, 19 imports and 12 exports, basing his selection on the value of the separate commodities in relation to that of the total value of the exports or imports. The aggregate value of the commodities selected amounts to half that of the total foreign trade of Italy, and, in order to remove any doubt that the price movement of the remaining commodities might neutralise that obtained from the first group, Pantaleoni gives, in the article quoted, the result of calculations made by him with regard to exports. This result shows that, assuming the number of exports in the customs list to be about 900, if the 12 selected had undergone an aggregate rise or fall, it would be necessary, in order to neutralise the effect of such a movement, and maintain the price level *in statu quo*, for at least 524 opposing movements to have taken place—a hypothesis which would have against it a probability of 10 millions, *i.e.*, an entirely negligible probability.

Now, the principle of selection applied by Pantaleoni to foreign trade can also be applied to the general trade of a country. The volume of the goods which constitute this trade is made up of the amount produced in the country and of the amount imported, the amount of exported produce being deducted from the former category. These goods are not fixed in number, as in the case of Pantaleoni's exports, but there is no difficulty in fixing a number which shall be logically admissible in applying the proportions of Pantaleoni's experiment. In these conditions, when the value of the commodities selected on the basis of the three principles referred to amounts to half the value of the total of all goods imported and produced, it may be affirmed that the price-variations of the selected commodities will represent the several variations

[1] Pantaleoni, "Indici delle variazioni dei prezzi d'importazione e d'esportazione in Italia dal 1878 al 1888" in *Giornale degli Economisti*. Maggio, 1891.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of prices in the given country. It is certainly not easy to determine the volume and, hence, the value of the total of the goods produced, but a calculation may be made from indirect data, inasmuch as the volume is limited by the amount of raw materials available, and only an approximate calculation is necessary; moreover, in doubtful cases the number of selected commodities may be increased until the doubt is eliminated.

The commodities having been chosen on the basis of the principles explained, we may enquire if there is any reason for excluding any selected category of commodities.

The question arises in connection with the manufactured products, which, according to the principles established, may evidently be selected, equally with raw materials. From the standpoint of their exchange value, indeed, they have every right to be accepted, but their inclusion would give rise to a doubling of weight, because the values of manufactured products include the values of the raw materials which went to make them, and, moreover, the prices of the principal products regularly manufactured, which alone among the great variety of manufactures should be brought into the computation, follow the price-variations of the raw material.

(*b*) *Determination of the weights to be used in the construction.*

General index-numbers of wholesale prices may be simple or weighted. They are simple when the price of each single commodity has the same influence in the general index; weighted, when the price of each commodity, over and above this, is given an influence commensurate with the relative importance of the commodity in the total budget. The weighting may be empirical or rational. It is rational when the weight is calculated on a scientific basis, empirical when this is arrived at by other means. The empirical method is exemplified in some of the systems frequently employed. Thus, in Sauerbeck's system, published in the *Journal of the Royal Statistical Society*, the general index-number is calculated arithmetically; but to some articles, such as bread, meat, sugar, iron, coal, cotton, wool, a double weight is given. Similarly, in the *Economist* construction, the method is arithmetical, but an empirical weighting is indirectly introduced because, in the case of certain commodities estimated to be of greater importance, two or three kinds are brought into the computation. Again, in the recent system of Italian index-numbers constructed for the *Corriere Economico* of Rome, Professor Bachi uses the simple arithmetical method, selecting, on account of their special importance

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

to Italy, corn, wine, cotton, silk, coal, and, following the example of the *Economist*, contents himself with calculating the prices of two qualities of each, thus giving a double weight to these five articles. This empirical method is not convincing. We will now examine closely the system of Bachi, who has the merit of having, in 1916, constructed the first series of index-numbers of wholesale prices.[1]

Abstracting the five commodities classes as principal and accorded double weight, the remaining articles are all of like weight but in reality are of very different importance, whether as regards their value, the amount consumed or the importance of the want they satisfy. Consider, for example, Bachi's group-divisions, which are (*a*) cereals and meats, (*b*) other foods, (*c*) textile fibres, (*d*) metals and minerals, (*e*) other articles; it should be noted, dealing with the average value of the quantities consumed in the triennium 1910–12, that in the first group beef, with a total value of 100 millions has in the index-number a weight equal to that of dried fish; oats, with a value of some tens of millions, weighs the same as maize, with a value of over half a milliard. In the second group cheese and almonds, with a value of a few tens of millions, have a weight equal to that of oil and sugar, which are quasi-necessaries, and have in the triennium an average aggregate value of about half a milliard.

The same discrepancies are found in comparing articles in one group with those in other groups, for example, in comparing cheese, almonds, rice, with maize, with iron and with hides. If, then, we go back to the choice of the five articles which were estimated as being the most important for Italy, and were accordingly given double weight, some doubt arises as to the justification of the choice. In fact, the equalisation of the weights of wheat and of silk is not convincing; wheat is a necessary, silk is not; the value of the silk is only a few hundreds of millions (the reference is still to the 1910–12 figures), while the value of the wheat consumed in Italy amounts to one and a half milliards. Nor is it possible to justify the double weighting of silk as compared with iron, which, if it does not employ in Italy a very large amount of capital and labour, was and is the result of immense labour in other countries and forms in Italy the basis of industries which are vital to economic

[1] The preceding systems—those of Pantaleoni, Benini, and Necco—referred to prices of imports and exports and were based on the average unitary values fixed annually for the preceding year by the Central Commission of the Customs. These values—because of the system on which they are estimated—did not and do not permit an evaluation of the variations which took place in preceding years nor of monthly valuations.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

life. These observations should not be taken as criticisms of Bachi, but of the empirical method employed in the Sauerbeck and *Economist* systems from which Bachi's is derived. If the economic facts on which the weighting of the prices is based are not scientifically established, the system of index-numbers can have only a limited value.

A similar conclusion was reached by Wesley C. Mitchell, who showed the differences which are found between prices calculated by various empirical or rational methods.[1]

Certainly, as has been observed by some statistical authorities, the problem of constructing simple index-numbers of prices is more important than that of the scientific construction of weights, but if rational weights are not applied general index-numbers of prices for successive periods can have no scientific value.

One of the most important attempts at constructing scientific weights was that of the Board of Trade in the famous report of 1903. Forty-five articles were chosen and divided into four groups: the first included coal and metals (6 articles), the second, raw textiles (6 articles), the third, foodstuffs and beverages (23 articles), the fourth, various commodities. The single commodities were allotted weights proportionate to their estimated values in the national consumption during the period 1881–90. For 23 raw products imported from abroad the consumption was estimated on the value of the imported goods, less the value of the amount re-exported, while for the remaining commodities the value of the consumption was determined by the aggregate value of the quantities produced and imported, less the quantities exported.[2]

This basic conception, which has been discussed elsewhere, offers some advantage in comparison with other systems, founded on well-known methods, but it cannot be accepted.

Indeed, we may observe that the valuation of the consumption of various commodities cannot be made except by means of varying criteria; for example, for cotton the valuation or the quantity estimate ought to refer to the amount consumed in factories, whereas for meat the reference should be to the individual consumption; hence the two values are not comparable. Moreover, the fundamental considerations on which the valuation or the measurement of the consumption is based exclude stocks from the calculation. Now, these cannot be eliminated, especially when it is remembered that they may vary greatly according to the nature of the

[1] Wesley C. Mitchell, *op. cit.*, p. 73.

[2] "Report on Wholesale Prices in the United Kingdom," *op. cit.*, pp. xxxv and 429, *et seq.*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

commodity and the season, and also according as we are considering them in relation to the merchant or the producer, while, on the other hand, except in the case of a few articles, the figures are very difficult to display statistically. It may be said, in fact, that in any valuation of consumption we encounter several different species of difficulty: (*a*) technical difficulties; (*b*) those which arise in comparing the consumption of different kinds of commodities; (*c*) the inability, in the case of some commodities, of the consumption value to serve as a measure of their real importance, because the value of the consumption of any article is a relative manifestation which varies according to the actual amount of the commodity and to the nature of the demand. On the other hand, a proposal made by Mr. Wesley C. Mitchell merits the most careful consideration. Following on a critical analysis of weighted index-number systems he writes:—

"Probably the best weights to apply are the average physical "quantities of the commodities bought and sold over a period "of years without reference to the number of times their ownership "is changed. These weights should be applied directly to the "actual prices of each commodity in making up the totals for the "several groups that have been mentioned, and then, if the necessary "data can be secured, the totals for the several groups should be "weighted again in making up the grand totals for all commodities."

It would appear from these words that the weight should be in accordance with the physical quantity, but in another part of his work it seems that Mr. Mitchell is referring to the value of the goods bought and sold. He there describes the procedure as follows:—

"The weighted index-numbers were made from these same "relative prices in the following way: (1) For each commodity "included the Bureau of Labor Statistics made a careful estimate, "based upon a critical study of the best available sources of in-"formation, of the physical quantity of it entering into exchange "in the year 1909. By 'quantity entering into exchange' is "meant the quantity bought and sold, irrespective of the number "of times it changed hands. (2) These physical quantities were "multiplied by the average prices in 1909 of the respective com-"modities. (3) The resulting sums of money were used as weights "to multiply the relative prices of the respective commodities "on the 1890–99 base. (4) The sums of the products were cast "up for each year, and finally these sums were divided by the "sums of the weights, *i.e.*, the value in exchange for 1909."[1]

[1] Wesley C. Mitchell, *op. cit.*, p. 113 and p. 72 (footnote).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

A similar criterion for determining the weights of the selected commodities was put forward in a recent study published in *Giornale degli Economisti.*[1]

Since it is impossible to calculate the amounts consumed, I prefer to take the commercial value of the commodity (including both the produced and imported amounts) in the internal trade during a given period, a value which, omitting separate transactions, corresponds to the value of the amount of the commodity destined for trade in that period.

The values thus obtained for each commodity reflect the principal characteristics in which the importance of the commodity consists. The differentiation of the values of the separate articles serves to graduate their importance; the measure of the importance of the separate commodities is determined by the relation between the value of the quantity of each and that of the total of the selected commodities. There remains the question if the series of weights of the separate commodities should vary from year to year with the factors which determine the weight, or if the series should be fixed for the whole of the period under review.

In my Paper, already referred to, I followed the second of these processes, being of opinion that the relations between the weights of the separate commodities and the total value could not vary appreciably in a period of moderate duration, precisely because the articles chosen satisfy an unvarying necessity in the economic life of the nation. The appropriate weight of a given article may be *modified* from year to year, according to events, but it will not be *transformed*—that is, the variations in weight can only be slight because they are limited on one side by the economic and organic demand of the population, on the other by the quantity available to meet that demand. But my proposal of fixed weights was made in the early years of the war, when no one foresaw what great changes would be brought about by the severity and the prolongation of the war. Instead, in order to compare the variations of the war period with those of the pre-war period it is necessary to consider the modification of the weights which actually took place, owing, especially, to the huge increase in prices and in the consumption of all articles directly or indirectly used in the prosecution of the war. I do not believe, however, that the method of movable weights need hinder the construction of a series of price index-numbers, because, if he finds great changes in the conditions from year to year, the calculator is able to modify the weights of

[1] "Calcolo dell' indice ponderato dei prezzi all' ingrosso in Italia dal 1910 al 1916" in *Giornale degli Economisti,* September, 1918.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the several articles accordingly. The weights having been fixed for the normal period—that is, the pre-war period—they must be modified according to the year and according to the particular commodities dealt with. Certain differences of detail in the determination of the weights will be shown in the practical examples given later on.

(c) *The calculation of weighted index-numbers for groups and for the general index.*

We will at first confine ourselves to weighted numbers for groups and will deal, for the sake of simplicity, with one group only, since the same reasoning will apply to all groups.

The best way of proceeding is to determine the average weights not from the actual prices but from their index-numbers, because the prices of different commodities vary greatly not only according to the unit of measurement employed in the valuation, but because of the differences in the nature of the commodities themselves. Hence the index-numbers should be multiplied by the weights of the separate commodities at different periods, the products being added and the sum divided by the sum of the weights. In regard to the general index-number this is generally calculated, in rationalised systems, from the weights of the single commodities, or from the weights of the several groups, but there are appreciable drawbacks in both procedures. If we consider the absolute weights of the separate commodities in any system we shall find a great differentiation of weight as between the categories; in the group of food products are several which have a very large weight, while in the industrial group the weights are comparatively low, leaving out of account the exceptional period of the war. Moreover, the great majority of commodities have very small weights against the very large ones of a small minority. So that a few commodities in one group have a preponderating influence in the general index. Now, in dealing with commodities which vary greatly from a technico-economic standpoint, it would be somewhat illogical to compare the relative weights of an article in one group with that of one in another group; hence the general index-number must not be calculated from the weights of the single commodities. As Pareto justly observes, in a study which aims at giving a general idea of the present variations in prices, it is advisable neither to exclude the single quantities of the commodities altogether nor, on the other hand, to give them undue importance. Hence we cannot accept even the system according to which the general index is calculated by means of the weighted average of the weighted

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

TABLE I.—*Variations of Wholesale*

Commodities (selected according to the criteria given in the text).	Unit.	Pre-war period.		Index-number of prices in 1914.	1915.
		Average price. 1910–12=100.	Index-number of prices in 1913.		1st quarter.
(*a*) *Food products.*					
1. Wheat and meat—					
Fine wheat, two kinds	Q.	*29·32*	94·03	100·24	137·31
Beef, 1st grade, deadweight, Milan	K.	*2·06*	89·8	93·20	97·73
2. Other foodstuffs—					
Maize, grown in Italy	Q.	*19·71*	93·35	95·08	141·38
Olive oil, Bari extra, fine Tuscan, Ligurian	Ett.	*171·74*	102·64	103·25	99·10
Wine, high class and ordinary	Ett.	*34·8*	86·40	66·40	66·2
Citrons, Palermo lemons and oranges	thousands	*17·14*	138·68	89·73	71·41
Rice, fine quality Milanese	Q.	*44·22*	103·79	95·25	98·34
Sugar, home-refined	Q.	*138·24*	93·25	89·10	92·59
(*b*) *Materials essential in the chief industries.*					
3. Raw textiles—					
Cotton, American middling	Q.	*170·6*	95·16	89·32	75·49
Raw wool, 3 kinds home-clipped	Q.	*249·6*	93·10	102·90	169·4
Raw silk, yellow: 1st grade; two brands	K.	*42·4*	111·79	116·50	90·67
Hemp (Bologna)	Q.	*107·53*	101·92	92·13	112·80
4. Metals and minerals—					
Coal, best quality, Cardiff and Newport	C.	*36*	109·8	112·4	201·52
Iron, black plates, base N. 20	Q.	*28·15*	114·38	113·67	131·55
Copper, refined, in ingots....	Q.	*175·1*	112·76	98·17	127·73
Brimstone, in blocks ...	Q.	*12·2*	100·74	99·83	111·63
5. Other commodities—					
Raw ox hides	Q.	*131·1*	117·68	95·88	102·89*
Timber, cut into boards, 2nd quality	Mc.	*58·4*	115·78	121·23*	—
Lime, hydraulic, Casalmonferrato	Q.	*28·45*	112	106·04	112·33

NOTE.—The sources were: the *Bulletins* of the Genoa and Rome Chambers of Commerce, those of the Ufficio di Statistica agraria del Ministero dell' Agricoltura, the Associazione cotoniera di Milano, the Associazione serica di Milano and the Comune di Milano. For the two last years, the following publications have been consulted to fill the gaps in the quotations and to modify the denominations of the kinds of goods chosen:—*Bollettino del Economato di Torino*, the *Bollettino settimanale dei prezzi delle sete di Torino*, the *Bollettino Associazione del cuoio di Torino*, the *Rassegna del mercato dei carboni di Genova*, the commercial newspaper *Il Sole*, and the annual *L' Italia*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Prices in Italy during the War.

Quarterly index-numbers.

1915.			1916.			
2nd quarter.	3rd quarter.	4th quarter.	1st quarter.	2nd quarter.	3rd quarter.	4th quarter.
141·28	231·06	139·96	143·30	139·97	123·02	123·05
115·18	151·45‡	154·89	155·14	157·28	155·16	159·03
156·77	144·30	153·11	146·82	135·27	143·80	145·05
104·10	108·88	112·48	120·33	131·06	135·05	137·74
70·73	116·37	141·7	203·43	233·46	244·06	216·3
—	—	—	—	—	—	—
103·37	94·60	93·33	109·34	105·40	107·34	103·93
95·60	96·51	99·27	107·06	107·06	114·21	153·30
85·09	88·66	114·78	127·13	130·62	162·20	210·16
167·2	186	195·5	211	201	213·6	240·4
95·89	108·44	137·65	175·74	177·86	184·90	212·40
119·24	112·58	139·15	158·35	197·58	209·66	226·24
239·85	232·40	351·42	390·26	664·85	482·59	669·79
163·93	199·82	250·57	304·85	231·96	339·19	411·36
146·19	161·06	168·47	239·85	275·31	226·14	300
111·47	124·58	126·22	148·80	126·50	256·88	289·06
148·63†	160·81	154·68	170·79	129	179	197·72
—	—	251·42	299·22	—	305·64	323·53
125·36	134·74	176·86	166·96	199·13	207·11	210·90

Economica, 1918, whose author, Professor Bachi, has most kindly allowed me to refer to the Table of Prices.

For the last two years the only uncontrolled commodities were: cotton, silk, wine, iron, copper, lime, brimstone, hemp (this last only up to the first months of 1918).

* January–February

† May–June.

‡ September.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

TABLE I.—*Variations of Wholesale*

Commodities (selected according to the criteria given in the text).	Unit.	Quarterly Index-numbers. 1917. 1st quarter.	2nd quarter.	3rd quarter.	4th quarter.
(*a*) *Food products.*					
1. Wheat and meat—					
Fine wheat, two kinds	Q.	126·04	134·38	153·72	144·86
Beef, 1st grade, deadweight, Milan	K.	176·9	209·7	223·3	243·6
2. Other foodstuffs—					
Maize, grown in Italy	Q.	148·50	150	177·5	180·3
Olive oil, Bari extra, fine Tuscan, Ligurian	Ett.	174·6	174·6	174·6	194
Wine, high class and ordinary	Ett.	—	261·4	273·6	289·7
Citrons, Palermo lemons and oranges	thousands	—	—	—	—
Rice, fine quality Milanese	Q.	176·4	176·4	176·4	205·7
Sugar, home-refined	Q.	162·3	200	219	241·1
(*b*) *Materials essential in the chief industries.*					
3. Raw textiles—					
Cotton, American middling	Q.	254·16	327·88	406·92	459·57
Raw wool, 3 kinds home-clipped	Q.	—	320	320	320
Raw silk, yellow: 1st grade; two brands	K.	251·7	257	309	307
Hemp (Bologna)	Q.	284·05	307·54	—	514·26
4. Metals and minerals—					
Coal, best quality, Cardiff and Newport	C.	683	May 1236*	—	December 1076*
Iron, black plates, base N. 20	Q.	511·86	477·61	1050·90	1278·86
Copper, refined, in ingots....	Q.	386·06	429·30	409·05	392·50
Brimstone, in blocks	Q.	341·96	396·22	426·47	300·32
5. Other commodities—					
Raw ox hides	Q.	—	—	221·0†	221·0
Timber, cut into boards, 2nd quality	Mc.	369·66	429·52	417·22	456·86
Lime, hydraulic, Casalmonferrato	Q.	—	228·7	318·4	351·3

* Quotations issued by the Italian Government.
† May–June.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Prices in Italy during the War—(contd.).

Quarterly index-numbers.				Actual price corresponding to the last index-number in the series.
1918.				
1st quarter.	2nd quarter.	3rd quarter.	4th quarter.	
147·91	159·23	205·32	208·23	*61·2*
361·16	439·8	—	—	*9·08*
188·5	188·3	270	—	*53·2*
203·2	203·7	207·7	262·6	*450*
278	304·6	382·8	451	*157*
—	—	—	—	—
205·7	205·2	205·2	205·2	*91*
257·8	252·5	275·5	275·5	*356*
636·31	808·90	—	—‡	*1380*
329	340·5	340·5	340·5	*850*
364·6	386·7	396·2	396·2	*169*
539·28	539·28	538·28	539·28	*580*
January 1166* February 1250	1250§	September 1166·6*	October 1027·7* November 555·5* December 277·7*	*100*
1440·88	1586·25	October 1290·4	November 1747·7‖	*492*
401·48	428·10	October 471·15	November 463·71‖	*812*
500·32	540·16	561·97	561·97	*68·50*
221·0	221·0	221·0	—	*290*
567·46	740·90	856·2	907·5	*534*
351·3	421·7	421·7	421·7	*120*

‡ No transactions.
§ The preceding prices have been left unchanged.
‖ In December the trade was controlled.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

TABLE II.—*Index-numbers of prices of groups of selected commodities, and general index-numbers.*

Formula: $$I = \frac{\frac{S_1p^2}{S_1p} + \frac{S_2p^2}{S_2p^2} + \dots}{n}$$

Quarterly variations.

	1910–12.	1913.	1914.	1915.			
				1st quarter.	2nd quarter.	3rd quarter.	4th quarter.
1. Wheat and meat	100	92·4	92·6	124·56	132·8	137·6	144·7
2. Other foodstuffs	100	101	91·5	82·5	88·3	116·9	135·8
3. Textile materials	100	99·7	96·9	89·5	107·96	116·34	139·29
4. Metals and minerals	100	110	108·9	163·4	195·9	207·6	284
5. Other commodities	100	115·8	109·9	—	—	197·7	206·4
General index-number	100	109·8	100·9	—	—	161·22	182·4

	1916.				1917.			
	1st quarter.	2nd quarter.	3rd quarter.	4th quarter.	1st quarter.	2nd quarter.	3rd quarter.	4th quarter.
1. Wheat and meat	147·1	145·5	128·6	134·7	142·4	158·6	17·6	176·6
2. Other foodstuffs	176·9	191·05	199·9	189·1	—	230·7	240·9	250·8
3. Textile materials	160·55	163·99	183·2	219·74	247	309·7	348·5	392·46
4. Metals and minerals	460	477	398·2	512·5	572·2	816·6	1017·1	1045·4
5. Other commodities	287·2	251·5	246·7	253·1	—	324·7	340·2	352·3
General index-number	240·35	245·8	231·3	262·8	—	368	424·5	444·4

	1918.			
	1st quarter.	2nd quarter.	3rd quarter.	4th quarter.
1. Wheat and meat	216·97	249·59	—	—
2. Other foodstuffs	253·8	21·37	336·3	349
3. Textile materials	498·3	526·89	—	—
4. Metals and minerals	1171·3	1232·1	129·21	—
5. Other commodities	490·8	504·7	164·3	578·4
General index-number	517·35	566·8	—	—

NOTE.—Several gaps were found to occur in the group data. Some of the lacunæ were filled up by means of an analysis of the figures obtainable or by linear interpretation or by repetition of the figure of the previous period, others have of necessity been left blank and the general index figure is affected to that extent. In any case the resulting series, although incomplete, give a precise indication of the character and intensity of the price variations.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

averages of the groups. The weight, for example, of the fourth group (foodstuffs and beverages) in the system of the Board of Trade already referred to would have a value almost double that of the other three groups. I believe, therefore, that it is preferable, in calculating the general index, to go back to the arithmetical mean of the weighted averages of the single groups. Generally speaking p_1, p_2, p_3, . . . will be the weights of the given commodities, and r_1, r_2, r_3, . . . their prices. The sign Σ refers to the whole of the commodities, and the signs S_1, S_2, . . . to various partial groups, so that

$$\Sigma = S_1 + S_2 + \ldots$$

The arithmetical mean

$$i = \frac{\Sigma pr}{\Sigma p}$$

would give undue major importance to the commodities of greater weight. In order to avoid this I make use of a method which consists, in substance, as Pareto writes in an analysis[1] which he was good enough to make of the ideas put forward in my article already referred to, of taking as the index

$$I = \frac{\frac{S_1 pr}{S_1 p} + \frac{S_2\, pr}{S_2\, p}}{n}$$

In this way we obtain a value intermediate between that of the preceding index and that which would be obtained by simply taking as index the arithmetical mean of the prices.[2]

[1] Published in the *Rivista Italiana di Sociologia*, 1919.

[2] As Pareto remarks, it is necessary to guard against an illusion analogous to that which deludes certain scientists into searching for the *best* mean. "All the means are good, each in a special sense. We have to discover not merely if a given weighted index is the best but also if, by corresponding to special conditions, it is useful to science compared with others."

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Market Prices and Controlled Prices of Food in Moscow.

By S. P. Turin.

When discussing the economic conditions in Soviet Russia, one is generally confronted with the same remark: "Yes, but the information we get about the Bolshevist rule and the way in which the Bolshevists regulate the State and social life in Russia is so contradictory that we cannot decide on its merits."

All information of the real conditions prevailing in Russia, given by people who do not share the views of the Bolshevists, is received with little confidence and carries but small weight, even if such information comes from well-known Russian democrats or socialists and is backed by statistical figures. On the other hand, statistical data emanating from Bolshevist sources, in spite of their spasmodic and partisan character, meet with more respect.

Without trying to explain this phenomenon, the present writer would like to draw the attention of the reader to the following statistical data which appeared in the official journal of the Russian Trade Unions, issued in Moscow on January 30, 1920. The figures given were compiled and published by the Labour Statistical Department of the Central Statistical Board and the People's Commissariat for Labour, and their origin, therefore, as the official data of the present Government of Soviet Russia, may be counted as above suspicion, as not having been invented with the express purpose of trying to depreciate the Bolshevist system.

According to the journal mentioned above there existed in Moscow on November 1, 1919, the following prices for food:—

		Market price in roubles.	Controlled price in roubles.	Monthly Government ration.	Cost in roubles.
1. Bread (rye)	per lb.	100	2·0	15¾ lbs.	31·50
2. Rye flour	,,	105	1·19	—	—
3. Groats	,,	110	1·53	—	—
4. Potatoes	,,	26	2·5	—	—
5. Cabbage	,,	10	3·5	—	—
6. Beetroot, carrots, etc.	,,	25	4	—	—
7. Sugar and sweets	,,	600	6·5	—	—
8. Vegetable fats	,,	650	5·6	—	—
9. Animal fats	,,	68[illegible]	22·5	—	—
10. Meat	,,	156	4·8	—	—
11. Herrings	each	190	4·4	—	—
12. Other fish	per lb.	125	4·56	—	—
13. Milk	per pint	52	6·6	—	—
14. Eggs	each	24·50	4·3	—	—
15. Salt	per lb.	280	2·5	—	—
16. Tea	,,	1500	40	¼ lb.	10

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Let us examine the last two columns of this table. We see that the workman receives from the Government a monthly ration of $15\frac{3}{4}$ lbs. of bread and $\frac{1}{4}$ lb. tea. It must be borne in mind that the figures given represent Russian lbs., and a Russian lb. is equivalent to 14 ozs. So that in English lbs. a Russian workman receives a monthly ration of 14 lbs. 3 ozs. of bread and $3\frac{1}{2}$ ozs. of tea. The other items of staple foods enumerated in the table are not supplied by the Government, and the workman, not to mention other categories of the population, is obliged to obtain these as best he can on the market or from other sources. This means that the actual prices existing in Moscow on November 1, 1919, when the statistics were compiled, were not controlled prices, but market prices as shown in column 1, and that controlled prices do not in fact exist. They are merely issued as decrees, to which no one pays the slightest attention.

In the same journal we come across another interesting fact. According to a calculation made on the basis of labour budgets in 1918, a workman had to spend daily 385 roubles on the market for necessary food, and the average wage of a skilled workman in Moscow at the time was from 150 to 200 roubles per day. Thus we see that even a skilled workman, who receives every attention from the Government, can buy only about half the food necessary to maintain his existence.

Without making any comparisons with former times, as the conditions have so entirely changed, we should just like to give a few figures on food prices which prevailed in Moscow in the year 1915. These figures now read as a fairy tale :—

	Prices in Moscow in roubles.	
	In 1915.	In 1920.
Bread (rye) .... per lb.	0·03	100·00
Groats .... ,,	0·08	110·00
Potatoes .... ,,	0·02	26·00
Vegetable fats .... ,,	0·24	650·00
Cabbage .... ,,	0·02	10·00

The wages of a skilled workman at the time was from three-quarters to one rouble per day, and prices had risen then about 30 to 40 per cent. The suffering caused by the rise of prices at the time was one of the main factors that brought about the Russian revolution. It will be the same causes now operating that will dictate to the Russian workman his future actions against the terrible economic conditions in which he has to live.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

REVIEWS OF STATISTICAL AND ECONOMIC BOOKS.

CONTENTS :

PAGE

1.—*Koren* (*John*). The History of Statistics: their Development and Progress in Many Countries 480
2.—*Bowley* (*A. L.*). The Change in the Distribution of the National Income, 1880–1913 482
3.—*Anderson* (*B. M.*). Effects of the War on Money, Credit and Banking in France and the United States 484
4.—*Carver* (*T. N.*). War Thrift. Government Control of the Liquor Business in Great Britain and the United States 487
5.—*Barker* (*J. E.*). Economic Statesmanship 489
6.—*Webb* (*S.* and *B.*). The History of Trade Unionism (revised edition) 491
7.—*Acworth* (*W. M.*). Historical Sketch of State Railway Ownership 493
8.—*Hodges* (*F.*). Nationalisation of the Mines 495
9.—*Withers* (*H.*). The Case for Capitalism 496
10.—*Hobson* (*S. G.*). National Guilds and the State 498
11. *Lucas* (*Jas.*) Co-operation in Scotland 499
Smith-Gordon (*L.*) and *O'Brien* (*C.*). Co-operation in Denmark 499
12.—*Narain* (*Brij.*). Essays on Indian Economic Problems.... 501
13.—Other New Publications 503

1.—*The History of Statistics: their Development and Progress in Many Countries.* In Memoirs to commemorate the Seventy-Fifth Anniversary of the American Statistical Association Collected and edited by John Koren. xii + 773 pp., 8vo. Published for the American Statistical Association by the Macmillan Company of New York, 1918. Price $7 50c.

"The motive," Mr. Koren tells us, "that inspired this volume—"was to mark the Seventy-Fifth Anniversary of the American "Statistical Association by a serviceable contribution to our know-"ledge of statistics." Statisticians have good reason to be thankful both for the happy motive and for the form that its fulfilment has taken. Primarily the history is a history of official statistics, though private and unofficial statistics—often important, and notably so in the United States—are also touched. No such history has hitherto been available. Bertillon's *Cours élémentaire* gave a useful outline, but it was hardly more. Meitzen's work also was quite insufficient for the serious student. John's *Geschichte* was mainly devoted to the literature, and was cut short at the early years of the nineteenth century owing to the unfortunate death of the author.

In the present substantial volume the article for each country has been undertaken by an acknowledged authority of that country. To take the countries in alphabetical order as given: Mr. Knibbs deals with Australia; the late Dr. Robert Meyer, Austria; Dr. Julin,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Belgium; Mr. Godfrey, Canada; M. Jensen, Denmark; Professor Faure, France; Dr. Würzburger, Germany; Sir Athelstane Baines, Great Britain and Ireland and also India; Dr. von Buday, Hungary; Dr. Verrijn Stuart, the Netherlands; M. Kiaer, Norway; Dr. Kaufmann, Russia; Dr. Arosenius, Sweden; Dr. Cummings, the federal statistics, and Mr. Gettemy, of the Massachusetts Bureau of Statistics, the State statistics of the United States. The promised contributions on Italy and Japan were, unfortunately, not received in time for inclusion in the volume. Each article, in general, opens with an historical survey; then deals with the existing statistical work and concludes—if the author has had the courage to turn prophet—with a section on the future, a list of the principal official statistical publications being usually included as an appendix.

It would be invidious to balance the respective merits of a number of contributions of which all are informative and useful, but we feel compelled to single out for special mention the exceptionally detailed memoir by Professor Faure on France. It must have been a labour to compile, but was clearly a labour of love, and gives a full and documented history of the evolution of statistical practice in France from the eighth century onwards. Some articles, notably that on Russia, have been rendered, in a sense, out of date by the chances and changes of war; but a history (if accurate) is never really out of date, and such articles will remain of service to those who have to use the statistics existing at the time when they were written. In the case of our own country, Sir Athelstane Baines wrote his account—a little brief but full of matter—when the Ministry of Health and the Ministry of Labour, not to mention other Ministries which may (or may not) perish, were not. Of the Prophetic Sections, if we may term them so, we would direct particular attention to that by Professor Julin (pp. 156–65). Like many other writers he complains of over-decentralisation and "lack of team-play": that "want of co-"ordination and centralized supervision generally" which Sir Athelstane Baines mentions in the case of British statistics (Dr North is under some misapprehension in thinking that (p. 35) the control of all official governmental statistics in England was ever concentrated in the Board of Trade). Dr. Julin suggests centralization by rendering the Statistical Central Commission a working, and not merely a consultative, body with a permanent and trained staff. The offices, for which a plan is outlined, should contain not merely the usual accommodation for the staff, but also a spacious library and rooms for outside students and investigators: "the central statistical service ought to be a veritable scientific "laboratory where anyone who so desires can come and work" and where the original documents should be always at the disposal of investigators—a course which would often be illegal in this country, if the words "original documents" are to be taken literally. A Superior Council of Statistics should replace the Central Commission in its consultative functions; it should consist of

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

scientific and administrative experts, appointed by the King on the recommendation of the learned societies.

The present writer fears that in his view of the future he is a pessimist, a pessimist being—not a person who thinks that everything is just as bad as it can be and is going to remain as bad as it can be—but merely a person who really *cannot* agree with the optimist. Let him therefore do penance by citing without comment, for the encouragement of Youth, the peroration to Dr. North's review of *Seventy-Five Years of Progress*: "Some of us have faith "to believe that the day of universal justice is coming to the world, "that it draws yearly nearer, and that in the end it will make "international wars impossible. We recognise no agency more "effective to this end than the statistical method, through which "alone we can gain complete knowledge of ourselves and of other "peoples, and measure the relative progress of each and of all. "Thus the science of Statistics in the large sense is the greatest of "all the sciences; for beyond all others it becomes the international "bond of union. Behold therefore within the lifetime of the "Association, through this young science of ours the whole world "is akin!"

It will, I am sure, be the hope of all Fellows of the Royal Statistical Society that the American Statistical Association may be able to look back upon the next seventy-five years of its life with even greater pride and satisfaction in progress made and in work accomplished. G.U.Y.

2.—*The Change in the Distribution of the National Income*, 1880–1913. By Arthur L. Bowley. 27 pp., 8vo. Oxford: Clarendon Press, 1920. Price 2*s*.

Professor Bowley's latest study on the division of national income enhances the value of his penultimate contribution to the subject. The observations which he lately recorded with respect to the division of the national dividend at a particular epoch become now more trustworthy when it is shown that the proportions observed in one year are apt to remain constant for a series of years. The new observations perform the part of inductions fitted to be the test of others, to use the phraseology of Mill. Comparing the evidence against the existence of black swans and against that of men whose heads grow beneath their shoulders, Mill justly observed "it was more credible that a bird should vary in its colour than that "man should vary in the relative position of his principal organs." Previous experience showed that the negative evidence against the black swans, though more unanimous, was less trustworthy. Now this is the sort of induction about inductions which Professor Bowley's new brochure supplies. An experience extending over more than thirty years leads us to expect that the proportions in which the national income is distributed will, in ordinary times at least, change very slowly.

We had been prepared for this generalization by one of Professor

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Bowley's earlier studies. In the *Economic Journal* for 1904 (p. 459) he exhibited in parallel columns (*a*) the total amount paid in wages, and (*b*) the total income above the limit of exemption from income-tax (with an adjustment of the limit so as to permit comparison between different periods). Comparing (*a*) and (*b*), for the first quinquennium (1860–64), we find the ratio of wages to income paying tax to be 0·85 to unity. For the last quinquennium (1897–1901) the corresponding figure is 0·88; and for an intermediate period (1878–82) 0·80. The stability of proportions is confirmed by Dr Bowley's latest observations of the distribution between property and labour—classes not defined so simply as the (*a*) and (*b*) above cited. As now defined, the proportion of property's share to that of labour is found to be 37½ per cent. to 62½ per cent. in 1880; and exactly the same in 1913.

The stability thus evidenced is certainly very remarkable. It almost justifies the proud title of "Physique sociale" which Quetelet claimed for human statistics. It almost exhibits the character of physical nature: the distinction which Bishop Berkeley ascribes to the "ideas of sense." "They have," he says, "a "steadiness, order, and coherence and are not excited at random as "those which are the effects of human wills are." The analogy at least serves to emphasize Professor Bowley's conclusion that distribution depends upon a fixed system of causation. Like the physical constitution, it is not likely to be benefited by unscientific practices, remedies suggested by association of ideas and first appearances. Such was the medieval practice of blood-letting; such the depletion of profits prescribed by the modern socialist. The relation of that simple remedy to the evil which it is intended to use is well indicated in some remarks made by Dr. Marshall in the course of the discussion on a paper on the Changes in Average Wages, read by Mr. Bowley before the Statistical Society in 1895 (*Journal*, vol. lviii, p. 280). "Mr. Bowley's figures showed the increase of "wages to have been a little less, proportionally, than the increase "of income in general. But if only half the amount of capital "had been saved, the result would have been that the increase of "wages would have probably been smaller than it actually had "been and yet would have been greater and not less than the "increase of other incomes."

In view of the relation between property and capitalization, the inequality in the distribution between labour and property may not be such an unmixed evil as it appears at first sight. At any rate it should not be forgotten that while the relative position of the worker is much the same his absolute income has been increased

The matter may be illustrated by a recent correspondence in *The Times*. A distinguished physicist, on the strength of a strange economic theory, had argued that "it is merely a matter of time "before the producers (meaning apparently those in receipt of "wages and salaries) are left with anything but their appetites." To which it was pertinently replied that the theory was not borne

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

out by facts; since Professor Bowley had shown that the share of the national product which accrues to the "producers" does *not* form a steadily diminishing percentage of the total. To which the first writer, retiring it would seem from his original extreme position, retorted with a clever illustration purporting that, even if there had been no retrogression in the position of the producing class, that there should have been no progress was highly unsatisfactory.

The retort is good so long as we confine attention to distribution and suppose that improvement in that respect is the only possible advance. But we must take into account increase in absolute quantity as well as in proportionate share; for instance, the rise of 34 per cent. in real wages between 1880 and 1913, as computed by Professor Bowley. There is also a satisfactory transference from the class of wage-earners to classes with higher incomes.

No doubt there remains great and undesirable inequality, which Professor Bowley does not palliate. The disproportion is, however, less serious than it appears at first sight, for a reason pointed out by him. One may say with Sir Leo Chiozza Money that "one half "of the entire income of the United Kingdom is enjoyed by about "12 per cent. of its population." But it must be remembered that out of that half is taken a great part of the revenue necessary to Government, and the greater part of the savings necessary to the continuance and increase of production. What is taken in the way of taxation can hardly be said to be "enjoyed"; and of savings the enjoyment is at least deferred.

Still we do not dispute the author's melancholy conclusion that "the results of the system (the fixed system of causation determining "distribution) have not produced a satisfactory livelihood to the "bulk of the population." Rather, we would associate ourselves with Dr. Marshall when in the course of the remarks to which reference has been made he said that "he himself desired to see "wages increase at the expense of the incomes of well-to-do classes." But, he added that "we must consider what was possible as well "as what was just." F.Y.E.

3.—*Effects of the War on Money, Credit and Banking in France and the United States.* By Professor B. M. Anderson, Jun. Preliminary Studies of the War, No. 15. vii + 227 pp., 8vo. Oxford University Press, 1919.

Professor Anderson has had the difficult task of compressing a very extensive subject into a narrow compass. Of the two portions into which his book is divided, that dealing with France has been made substantially the longer, because, as he explains, war-time developments in France are much less familiar to American readers than those in their own country. The French portion is also much the better of the two. A great deal of ground is covered in a clear and interesting manner in no more than 120 pages. An illuminating preliminary chapter on pre-war French finance is based largely on the attacks of "Lysis" in *La Revue* upon

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

"L'Oligarchie financière en France." The story of exorbitant under-writing commissions on Russian and other foreign loans is re-told. That there was a "money trust" in France, and that it misused its power may be admitted. But Professor Anderson hardly gives enough weight to the other side of the case. The money trust created and maintained a very elaborate and efficient local organization for tapping the savings of the small French investor. It is easy to see now that the preference given to Russian securities was disastrous. With commendable perspicacity Lysis saw it, writing during the revolutionary outbreaks of 1906 and 1907. But the preference was primarily political. As Professor Anderson says in a later passage, much "was invested by patriots who "foresaw the war, and felt that they were strengthening an ally "who would protect France against the enemy." In the form of subscriptions to loans France paid a retaining fee to an ally. As a national policy this was successful, for the ally was at the critical moment retained: for nearly three years the Russians struggled against the Central Empires at a cost in lives which was more than the equivalent of any amount of French milliards. That was no excuse for deceiving the French investor, nor need the French banks have taken so high a commission as 10 per cent. for giving their patriotic advice. But from the point of view, not of honesty or of disinterestedness, but of war finance the consequences were not wholly bad.

Professor Anderson does not quite bring out the special strength of a lending nation in time of war. The mere fact that the French were in the habit of saving and investing their savings abroad gave them great financial advantages at the outbreak of war. Even if the investments they held were so ill selected as to be unrealisable (and this of course was not universally true), the flow of savings could be diverted from foreign investment to meet domestic needs, and this of itself would affect the exchanges favourably, and provide a margin for the expansion of credit. "In the first six months of "the war," says Professor Anderson, "France was a creditor to "all countries and a debtor to none." Was not this brought about partly through the guichets of the Oligarchie financière?

Professor Anderson endorses the criticisms which have been almost universally passed upon French war finance. "On the "whole," he says, "the tax policy in France has been lamentably "lacking in vigour." And to this he attributes the need for the excessive advances made by the Bank of France to the Government. He also accuses the private banks of timidity, in that they curtailed their loans and discounts after the outbreak of war. But here does he not under-estimate the effects of the dislocation of trade and industry? Banks can only lend if they can find borrowers. Production ceased, demand failed, traders were left to carry unsaleable stocks by means of adjourned bills discounted with the Bank of France. Interesting statistics showing the extent of the collapse are given in the chapter on "Depression and *Reprise des*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

"*Affaires.*" The dwindling of bank advances was the necessary consequence.

The portion of the book devoted to the United States is much less satisfactory than that on France. It is not merely that an attempt to deal with so extensive a subject in less than 80 pages is bound to be cursory and superficial. But much of this precious space is devoted not to an exposition of what actually occurred in the United States, but to a pursuit of the Professor's vendetta against the quantity theory.

He argues that the rise in prices is due, not to the increase in the supply of gold, or to the inflation of the currency, but to the diversion of the productive power of the country to warlike purposes. He quotes figures to show that "of the American population normally "in gainful occupations, fully one-half are devoting their energies "to the prosecution of the war" (October, 1918). Halve production, and you double prices! That is so, if you leave everyone with just as much to spend on half the supply of consumable commodities. But this means that you take nothing whatever out of their incomes, by tax or loan, to meet the cost of the war! In other words, this explanation of the rise of prices pre-supposes that the war is financed exclusively by inflation.

Again Professor Anderson recalls that "the United States have "gained, as we have seen, over a billion dollars in gold during the "war. Under ordinary conditions, such an increase in the gold "of the country, if expected to be permanent, would lead to a great "decline in the value of gold." But this time it did not happen. The increased demand for ready cash offset the increased supply, and, if prices rose, that was because people valued "guns and "cannon, powder and shells, food-stuffs, carriers and other things" more than before, owing to the intensity of their concern over the outcome of the war. The war in fact made us incomparably richer. It made money more precious, and at the same time made commodities more precious in proportion than money. The aggregate money income of the United States had risen, according to Professor Anderson, from 34·8 milliards of dollars in 1913 to 73·4 milliards in 1918, and dollars are worth more than ever! The only drawback is that they buy less. If this method be followed, wealth is as difficult to measure as the sorrows of Mrs. Gummidge, who felt them, it was alleged, "more than most."

Professor Anderson does not really make the case better when he tries to set off the fall in the prices of securities against the rise in the prices of commodities. Readers of his earlier book, *The Value of Money*, know that he is quite aware of what he calls the principle of "appreciation and interest": he does not dispute the fact that rising prices mean a high rate of interest. But if that is so, the low prices of securities are additional evidence of inflation. And apart from that, does he really think that the effect of the increased supply of Government issues on the stock markets can be ignored? Perhaps he would say that these Government issues at

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

high rates of interest are merely a phase of the increased demand for money. But the belligerent Governments at any rate did not want to keep the money, but to spend it. And this brings us back again to the Gummidge theory of economic values. R.G.H.

4.—*War Thrift.* By T. N. Carver, Professor of Political Economy, Harvard University. (Carnegie Endowment for International Peace. Preliminary Economic Studies of the War, No. 10.) 68 pp., 8vo. 1919.

Government Control of the Liquor Business in Great Britain and the United States. By T. N. Carver, Professor of Political Economy, Harvard University. (Carnegie Endowment for International Peace. Preliminary Economic Studies of the War, No. 13.) v + 192 pp., 8vo. New York: Oxford University Press, 1919.

I. The author wrote the first of the papers contained in this volume while the war was still in progress, and his object was to persuade the American public to spend as little as possible on their own personal wants, and to lend as much as possible to the Government for war purposes. When the Americans entered the war they profited in many ways from the experience of the European powers associated with them, but apparently there were large numbers of them who were blind to the discovery which we made early in the war, namely, that if the war was to be won business could not be carried on "as usual." In the United States, in fact, a strong newspaper campaign was conducted as late as the year 1918 in favour of lavish private expenditure.

Professor Carver's book was published too late to affect the situation, but it is an interesting contribution to the literature of thrift and saving. He enters into a defence of expenditure on luxuries in peace time. His definition of luxuries is "everything "not required for health, strength and efficiency of the people and "not demanded as decencies by the general consensus of opinion "of the whole nation" (p. 15). The last qualification is perhaps too sweeping. The "whole nation" would have a general opinion about very few things. It is argued that a community, after supplying its urgent wants, does better to produce luxuries than to aim at leisure. The former promotes active and strenuous labour and the accumulation of technical equipment, which in the time of the nation's need can be diverted to the production of necessaries (whether these be munitions, food, or anything else). Better still than the production of luxuries for immediate consumption is the application of a nation's surplus labour to the production of capital goods, for then the nation will not only consist of individuals accustomed to labour, but will be well supplied with material "means of pro-"duction." All of which leads easily to the conclusion that thrift —saving for the future—is a civic virtue subserving the nation's strength. The State may, indeed, when the need arises, find some difficulty in persuading its citizens to forego their usual luxuries or activities, but it can be done by taxation and in other ways.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

There is a short chapter on the "relation of war-thrift to "reconstruction after the war," in which Professor Carver argues that individuals, by lending their money to the State during the war, will have the money returned with interest to spend after the war, and so be able to facilitate the re-absorption into ordinary industry of the man-power released from war services. But where is the money coming from to pay back? Money lent to the State for war purposes has been, in general (*i.e.*, apart from that used for the production of capital goods, such as machinery, ships, and buildings of a permanent value), as irretrievably lost as if the private citizen had spent it on, say, fireworks (the two expenditures are not, of course, of equal merit). Repayment can only be made out of post-war production. That is to say, the re-employment (in the mass) of demobilized soldiers and munition workers depends, not on what was saved during the war, but on how much the community produces after the war. Will Professor Carver say that, since the war, employment is less than it might have been because the war was partly financed by taxation, in respect of which the private citizen has no claim to repayment?

II. In the second essay Professor Carver describes briefly the course of Government control over the "liquor trade" in Great Britain and the United States of America during the war. In both cases the motives of Government action were the same—first, to preserve and increase the efficiency of the fighting forces and the working population, and next, to economize the supply of foodstuffs and turn it to the best use. Perhaps the question of most interest now is: why did control lead to prohibition in the United States and not in this country? In America, as in Great Britain, the cry was raised that "the people" would not stand being deprived of their drink, and if this were attempted they would refuse to work. In the one country it was deemed prudent to conciliate this opinion: in the other country, notwithstanding the protests, the outcome has been prohibition.

Professor Carver suggests that the explanation of these results is to be found in the psychology of the two nations. He states: "The tendency in the old world is to look upon alcohol as either "harmless or beneficial when taken in small quantities and to "condemn only the excessive use of it. The tendency of the "majority on this side of the Atlantic (America) is to look upon "alcohol with a kind of abhorrence. This abhorrence is apparently "not based upon any belief that even the minutest quantities of "alcohol are necessarily harmful, and that even the most moderate "drinker is therefore doing himself irremediable harm. It is rather "based upon the observation that, in a large way, alcohol does "great social harm" (pp. 143-44). Drunkenness is condemned on both sides of the Atlantic, but people on this side do not consider that the moderate drinker should be penalised by having his liquor supply cut off, just because some persons abuse the drink, while across the water the bulk of public opinion favours the root-and-

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

branch method due, perhaps, to what Professor Carver states to be "the observed fact" that "the tendency towards excessive "drinking is much stronger in America than in Europe", (p. 146).

The movement for prohibition had been growing in America for at least forty years. But general prohibition was not actually enacted until after the war. During the war, alcoholic liquors were prohibited to soldiers and sailors; and supplies for the civilian population were curtailed in order to save food materials. Nevertheless, the circumstances of the war led directly to the success of the prohibition movement, although it is too soon to ascertain results. In this country, on the other hand, liquor control has been relaxed since the war, and we are in danger of slipping back into pre-war conditions. Professor Carver is right when he says that public opinion on the drink question is very different on the two sides of the Atlantic.

In a table on p. 19, Professor Carver uses the terms "production" and "imports" of spirits, beer, and wine in the United Kingdom, when the figures actually represent the quantities on which Customs or Excise duty was paid. The figures given as "exports" are also not properly named. The official publication from which the table is obtained (the fifth Annual Report of the Commissioners of H.M. Customs and Excise) shows clearly what the figures really represent.

A.D.W.

5.—*Economic Statesmanship.* By J. Ellis Barker. (Second edition.) xii + 624 pp., 8vo. London: John Murray, 1920. Price 16*s*. net.

Mr. Ellis Barker is an expert in the clever use of the "pen of a "ready writer." Among constant contributors to monthly reviews there can be few who have been more elaborately informed and are more agreeably informing. His practised skill in presenting detailed fact and collected figures is shown here once again to advantage. Ten chapters are appended in this new issue to his treatment of the "great industrial and financial problems arising during the "war," which was published a year before the actual end of the conflict. In half of the 200 pages thus added to the original 400 an examination is made of the "economic position and future" of Russia and Japan, of the "problem" of the "British merchant "marine" and the "British inland transport system," and of those of "British coal," in view, especially, of the first report of the Sankey Commission, and of "Land and Housing in Town and Country." "In another 100 pages the relations between capital and labour are "exhaustively discussed"; and the author draws particular attention to the two chapters he has written on "Labour Unrest." While he may, we think, be congratulated on clear and full "analysis of "the causes," we remain in doubt, after study of his proposal for conciliation by what can be described as an improved pattern of "profit-sharing," whether he has hit on a "permanent cure" in a scheme which, he hopes, will be found to be "practical, workable,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

"logical and inevitable." Here indeed, as elsewhere, where he lays bare shortcomings in the English railway system, with its "toy" trucks and its tiny loads, or traces defects of English "statesmanship" in fiscal and other matters to mistaken deference to the advice and undue regard for the interests of "non-producers," he may err from large dogmatism rather than from any lack of confidence. Nor, we suspect, will the statistical comparisons, employed effectively throughout, seem to suffer from excess of caution, though the authorities used, somewhat indiscriminately perhaps, are generally named, and legitimate inferences are frequently not fully pressed.

He owns to a departure from "logical sequence" in putting all the fresh material of this new edition at the end; and the significant fact, more applicable to the older preceding chapters, that they reproduce previous magazine articles, must, we believe, be held responsible for repetition, if not for discursiveness, in spite of the comment which he adds, that they were originally planned and written with a view to "subsequent publication in book form." Not merely does the later discourse on the "inefficiency of British "Industrial Production" in chapter XXIII revert to the earlier sermon on the self-same text in chapter V, but the contrast, illuminating as it may be, of the output of British and American workmen in various industries, with the proper distinction of "net "from gross" product, is invoked on more than these two fit occasions. The opening introduction is certainly needed to exhibit, adroitly perhaps rather than naturally, the links binding together the divers problems introduced and handled in succession, though it would be impossible to dispute their separate importance. Nor do we understand why opportunity should not have been seized to delete or emend statements and reasonings which have been affected by what has happened in the interval between this and the original edition. Germany, for example, is still treated as she was placed, and aspired to continue, in possession of territory, occupied during the war but relinquished at the peace; and, happily, we have emerged as victors, saddled, in 1920, with a debt of a less amount than the 10,000,000,000*l.* considered not impossible by our author two years ago.

Yet the general qualities of his performance may justly be considered to outweigh these particular defects, which we are inclined to connect with the influence, perhaps unconscious, of "occasional" composition. By reiterated emphasis, as well as by practised aptitude for striking argument and vivid description, he has made transparently clear and indelibly impressive the outstanding facts. He has offered many wise and opportune suggestions. We can notice here a few alone. The determining influence of coal on industrial development is appropriately demonstrated. The source of German wealth is traced to large stores of coal and iron, and to the appreciable advantage of great level stretches of country favouring communication especially by canals; the lavish employment by the United States of the newest machinery is emphasised; the importance

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

to France is shown of the recovery of Alsace and Lorraine, if accompanied by command of the coal, in which she has been, and will remain, comparatively poor, that will be needed for the profitable use of the rich deposits of iron in the restored provinces; the poverty of the soil for ordinary agricultural produce, and of the surrounding seas in fish, and the bad facilities for internal transport, of Italy are duly noted. All these relevant considerations are, with many others, thrown into bold relief. Similar stress is laid, in the new chapters particularly, on such topics as the economic potentiality of Russia and the industrial achievement of Japan.

Mr. Ellis Barker, in short, leads us on a pleasant journey over a large area of broken ground, and he imparts a variety of information of enduring interest as well as immediate usefulness. His main moral would appear to be that, to succeed, we must "Americanise" our industrial methods and equipment, and, while it may perhaps be hinted that the eagerness of our Transatlantic cousins to avoid trouble through the discovery and use of labour-saving inventions has a two-fold aspect, we cannot quarrel with the declaration that "in matters economic prosaic experience is a safer guide than abstract "speculation." For the luminous medium through which our author passes that experience in his entertaining and instructive handling we are, as we ought to be, sincerely grateful. L.L.P.

6.—*The History of Trade Unionism.* By Sidney and Beatrice Webb. (Revised edition extended to 1920.) xv + 784 pp., 8vo. London: Longmans, Green and Co., 1920. Price 21*s.* net.

In this "extended" edition the industrious and clever authors have brought up to date their well-known history. The vivid, bold account contained in three chapters, one on "Thirty Years' Growth," the second on the "Place of Trade Unionism in the State," and the last on "Political Organization," limited for this third topic to the twenty years from 1900, of fresh developments that have happened in a generation, has reached the magnitude of some 250 pages of close print. The whole volume, indeed, has been increased in size by about a third, and, through the use of thinner paper, it has preserved a shape in which it can be handled without inconvenience. But we regret, nevertheless, that, perhaps from a desire which is, not, however, put forward by Mr. and Mrs. Webb themselves, to avoid unwieldy bulk, the bibliography of the earlier issues should be now omitted. To those former editions we are referred for this indispensable aid and appropriate stimulus to the student; and it has not apparently been thought expedient or worth while to revise or augment the catalogue. We think that the completeness of the book is thereby impaired. We can understand more readily that, while they have not neglected to consult fresh evidence, such as the Home Office papers, rendered available during the time that has passed since 1890, our authors have not found it necessary to introduce more than "trifling" changes into their "original interpretation" of the "historical development"

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of Trade Unionism in previous periods. We gratefully acknowledge, in common, we suppose, with most economic students, the debt owing to Mr. and Mrs. Webb for their full, clear, and readable narrative of that past history, which must be treated in many respects as the final story of this important side of the Labour Movement. Their diligence as researchers for the interesting tale was no less praiseworthy than their competence as narrators.

Yet a decided bias was even then manifest; and the facts, as told, pointed to a conclusion favourable to a particular social creed. A special moral was astutely pressed throughout. In the present edition it appears to us that Mr. and Mrs. Webb have been at far less trouble to avoid subordination of the claims, which should be paramount with historians, of the plain record of straight detail, to the intrusion of controversial comment and the disturbance of colouring interpretation. In some instances, indeed, what may be regarded, in more than one sense of the term, as *choses jugées* are discussed with gratuitous prolixity; and the animus disclosed and the purpose intended throughout are such as to distort and mislead. The narrative has the defects, if it possesses the qualities, of partisan pamphleteering; it should not, and it will not, we are confident, be accepted as definitive or unimpeachable history. The twisted view of the Government deliberately planning the railway strike of last autumn is perhaps so incredible as to seem absurd; but the attitude adopted and the standpoint taken here are not dissimilar from those from which the miners' movement towards "nationalisation" is observed. The meticulous labour spent on the censure of the judges in the Taff Vale and Osborne cases is equally characteristic of the tone and temper of their critics. It may, as we have hinted, be charged with disproportion; it cannot be commended for cool detachment or trusted for fair open-mindedness. Its argumentative success is dubious; for it appears to hug the vulgar error which looks upon the law "as an ass."

Some chagrin, too, or disappointment may, we surmise, mingle with the roseate estimate here made of the advance of Trade Unionism from 1890 to 1920. It is indeed noteworthy that the great growth of numbers, which has been most marked among the unskilled and the women, can be traced largely to a single cause, affording a fresh illustration of the unexpected results of action directed to other ends than those achieved, and inspired by different motives from those realised. The recognition by National Insurance Acts of Trade Unions as "approved" societies has, in fact, lent a powerful impulse to Trade Unionism. It is also significant that the big conception of combination on a wide industrial basis, and the threatened use of the ambitious double-edged weapon of direct action, may be aptly regarded as revivals of old notions and ancient schemes which found favour at certain periods in the past and were then discarded. But what is perhaps more instructive to the student, and may cause some amusement to the cynic, is to be found elsewhere in the new chapters. For Mr. and Mrs. Webb

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

put forward some broad hints of improvement in political machinery. They urge, not without cause, that actual trade union leaders are not fitted by their training or experience for success in Parliament. The inference is tolerably plain that in this sphere of conduct they might be advantageously replaced by the "*intelli-*"*gentsia*," who, like our historians, have brought their talents and their knowledge to the Labour Movement from outside. Yet it should be added that it is no more than an obvious, if neglected, truism to point out that engrossment in statistical and other work in the offices of a Trade Union is incompatible with close attendance to political intrigue or other Parliamentary duties. The detached bystander will also observe with some grim satisfaction that the authors of this history, who have for a long time held and preached the pure doctrine of State Socialism, and still cling, as consistently as cruel exigency allows, to the wonder-working of trained bureaucrats guiding our industrial affairs, are forced to admit, and even to applaud, the fresh, if not contrary, direction given recently by the active propaganda of Guild Socialism. They bestow a tempered blessing on Mr. Cole, the apostle of that movement, and, so to say, "heap coals of fire" on the head of one who, though, like themselves, a collectivist, has not hesitated to pour opprobrium upon those whom he has scornfully described as out-of-date and reactionary. Such is the remorseless destiny of competitors, however ambitious they may be, in wholesale "reconstruction."

L.L.P.

7.—*Historical Sketch of State Railway Ownership.* By W. M. Acworth. xiv + 104 pp., 8vo. London: John Murray, 1920. Price 3*s*. 6*d*. net.

This "short summary of a long history" was originally written three years ago at the request of the American railway companies for submission to the Newlands Committee of the United States Congress, which had been appointed in 1916 to investigate the railway position with special instructions to report on the history of State ownership in foreign countries. In the original paper nothing was said of Canada, Mr. Acworth's position as one of the three Royal Commissioners considering Canadian railway policy precluding him from dealing with the affairs of the Dominion. That omission has now been remedied, but with this exception, the paper has not been substantially revised, the author's opinion being that current reports and returns relate to an abnormal situation and are therefore practically valueless for his purpose.

Modernising a thirty-year old statement made by Professor Hadley, of Yale, Mr. Acworth gives three reasons for Governments going into the railway business. First, from political and military considerations; secondly, because private enterprise was not forthcoming; and thirdly, with the idea of procuring for their citizens better conditions, such as lower rates and greater facilities, than private enterprise has given or is expected to give.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

It is significant that the two main countries whose railway system has remained under private ownerships, Great Britain and the United States, are the two which had no military problem. The geographical situation of a country largely shapes its political ideas, and it may well be that but for the Straits of Dover *laisser faire* would have been impossible here. Tracing the history of State ownership of railways in Mr. Acworth's pages the conclusion seems inevitable that the countries which have adopted this system have had no other alternative. As has been so frequently pointed out of late no country adopted State ownership or operation of railways for theoretical reasons. It has been their misfortune that public management could never be considered solely as a commercial proposition.

The question of the future of our own transport system is one upon which a decision will have to be taken at no distant date. The United States railways have already been returned to private operation. What lessons can we learn from State ownership and operation in the less important half of the railway world? Broadly, that private enterprise is bolder than that of the State, and that whilst the latter can raise capital more cheaply it utilizes it less economically, and State services may be dearer than those carried out by private ownership.

There is, however, an air of unreality about these comparisons between a State-owned, centrally managed bureaucratic railway system and one privately owned and subject to the full effects of competition. In the early days of railways Parliament made gallant efforts to foster the growth of competition, but the force of circumstances has been too much for it and it has had to give up the struggle. As Mr. Acworth himself wrote in 1911: "Competition is "dead. It might have been possible to substitute for it a carefully "thought out system of State regulation. No attempt is being made "to provide such a substitute. The present position can accordingly "only be very temporary, and the ultimate outcome can hardly be "other than nationalisation" At the time this was written the railwaymen certainly had an "all-grades" programme, extremely modest as compared with their subsequent demands, which appear to be framed to make company management impossible in future. It may, however, well be questioned whether the labourists would desire to replace company administration by a bureaucratic management centralised in Whitehall. In America the leaders of the Railway Labour Brotherhoods, whilst advocating Government *ownership* were opposed to Government *management*, and favoured the so-called "Plumb Plan," under which, while the public would buy the railroads, it would delegate their management to a board one-third of whose members would be appointed by the President of the United States, one-third by the "official employés" of the railways and one-third by the "classified employés."

There is undoubtedly an increasingly insistent demand from labour for at least a share in the management of the nation's vital

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

industries, and Mr. Acworth alludes to Mr. Justice Sankey's famous report advocating the purchase of the coal-mines. The difficulties in the scheme of administration therein suggested for coal-mines would be multiplied manyfold if applied to railways. Indeed, labourists have yet to learn that the successful management of a nation's coal-mines or railways needs training and capacities not demanded in the running of a co-operative store.

Although difficulties abound on every side a decision as to the future of our railways will soon have to be taken; it cannot be indefinitely delayed without material injury to the industry. Many books on economic and social subjects engender more heat than light. Mr. Acworth's book is not of that kind and is a valuable contribution to a most perplexing subject. It would be more valuable still if it had an index. W.H.J.

8.—*Nationalisation of the Mines.* By Frank Hodges. 12+170 pp., 8vo. London: Leonard Parsons, 1920. Price 4*s.* 6*d.*

Though this is not quite the impression Mr. Hodges wishes to convey, the careful reader will gather from his pages, especially p. 57, that the state of the coal-mining industry in this country is not nearly so black as it is commonly painted. Allowing, as of course we must, for the depreciation in the value or purchasing power of money, the cost of production of coal was about the same in 1918 (which is as far as Mr. Hodges goes) as in 1913, being only slightly more than doubled in our currency. Of the money-rise from 8*s.* 2*d.* to 17*s.* 6*d.*, wages of persons employed in the industry accounted for 6*s.* 11*d.*, rising from 6*s.* 4*d.* to 13*s.* 3*d.* per ton (Mr. Hodges says "per day," but this is a slip, perhaps excused by the curious coincidence that the wage per man per day at five days a week was in 1913 almost exactly the same as the wage per ton, owing to the annual output per man being 259 tons). "Other costs," which of course include much wages in other industries, made up the balance, rising from 1*s.* 10*d.* to 4*s.* 3*d.* There is nothing out of the way in this, as the value of money had sunk to about half what it had been before the war. What is certainly remarkable, however, is that the profits and royalties only went up from 1*s.* 11½*d.* to 3*s.* 1½*d.* in currency. Considering the general tendency of a depreciating currency to favour profits as against wages and salaries, and the notorious immense rise of profits in most of the great industries, it is strange to find Mr. Hodges taking this money-rise in the profits as a grievance. From the table on p. 55 we can deduce that in 1913 out of the 287 million tons of coal produced, profits took 55·3 million tons, while in 1918 out of 227 they only took 31·8—that is 19 per cent. of the product in 1913 and 14 in 1918. The 32 million tons would not exchange for as much commodities and services as the 55.

While making a grievance of the actual money-increase in profits, Mr. Hodges at the same time makes a bogey of their entire disappearance and the substitution of a heavy loss in case of a decline

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

of the price of coal unaccompanied by a decline in the money-cost of getting it. But we may rest assured that if the value of the pound sterling should rise again to anything like its old amount, money-wages and other costs in money will fall whether they are paid by capitalists, bureaucrats or syndicalists.

The decline in the output per person employed which has been going on for many years is, of course, an unsatisfactory feature. But it is, after all, very much what a well-informed inhabitant of Mars might expect in the absence of any great mechanical improvements. The country is getting old: all the coal easy to get at has long ago been removed. Its people are getting more refined, and a natural result is that it becomes more difficult to get men to work long shifts under ground, even in a "warm and well-ventilated "atmosphere," and shorter hours (after a limit long since passed) mean less output per man. Recently, of course, the situation has been made much worse—we may hope only temporarily—by the shortage of new capital, which is the consequence of the great disturbance wrought by the war in the distribution of wealth. The new rich save nothing like as much as the old rich did; the money taken by the State from the old and the new rich alike, and poured out in useless and hampering expenditure, deprives not only coal but all other industries of the new machinery which they require.

It is regrettable to find once more the old story of the great economy of transport effected by the division of the country into districts to be supplied by particular coalfields. Somebody seems to have told the Commission that 700,000,000 coal-ton miles were saved by it, and the miners' and so-called consumers' representatives on the Commission flaunted the big figure as a triumph of government management without noticing that it meant at most a trifling reduction of three or four miles in the average haul of coal trains, and that against this was to be set enormous loss and inconvenience to consumers unable to get the kind of coal which suited them. While in one part of the country steam coal was being supplied for open grates, in another the Oxford municipal waterworks was carting it back from Littlemore station (three miles by road) after it had passed through Oxford station (one mile by road) on its way —Littlemore being in District 8 and Oxford in District 7—and such devices were common all over the country. This precious "economy" was dropped long ago, and it is surprising that Mr. Hodges should revive its unhonoured memory.

The book is very pleasantly written, and it would be well if controversialists on both sides would follow Mr. Hodges' example in the avoidance of mud-slinging. E.C.

9.—*The Case for Capitalism.* By Hartley Withers. ix + 255 pp., 8vo. London: Eveleigh Nash Co., Ltd., 1920. Price 7*s*.

Thucydides provides a text "For men and not walls make a "city." From this, and whether our own humble rendering of it is that we cannot make a silk purse out of a sow's ear, or that the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Kingdom of God must first be within us, a hundred pulpits can be eloquent as to the impossibility of getting a better constructed world without better dispositioned, more industrious and unselfish folk than now inhabit it. But few of them will announce that for such a world we need less want of thought as well as less want of heart, and that the new order must ensure as great scope for individuality, freedom, initiative, invention and enterprise as the one to be replaced. In spite of the poet, it is not "But just the art of "being kind is all this sad world needs." It needs so much more than sentiment and goodness, though if these are *not* present, then perhaps the other qualities cannot do their best for life. Few of these orations would contain that fine combination of high ethical purpose, strong moral sense, profound and simple economics, and balanced judgment as to the aims and possibilities of society that mark this work. When a writer publishes frequently, we are, by experience, apt to suspect that he is over-writing himself and that his work must suffer. Despite Mr. Withers' great literary activity, this work is as spontaneous and as fresh as anything he has done, and seems to be written with inimitable ease. The first part is a simple exposition of the place and function of capital in the economic sphere and the true inwardness of the "right to the whole produce "of labour." This has been done before—notably by Mr. Mallock—but it has never been better done, and it is here dressed in its most modern garb. The only proper way to review such matter is for the reviewer to try it on the sort of person who requires the treatment and to watch the effect, for he can never judge the effect truly alone. The tale is told with such spirit and such humour that it should carry the reader in spite of himself. No good writer less great than this would venture upon Robinson Crusoe economics, but he does so with such novelty as to silence the scoffer, and scores with the universal appeal of it.

Finishing this section with a chapter on the achievements of Capitalism, in an outlook upon life that is both a little wistful and whimsical, has a strong love of its wholesome joys, something of an Alpine spirit, and a logic that is ruthless but never materialistic, Mr. Withers touches some levels which the social reformers who write high-toned ethics for the improvement of society seem to miss. We have the true Ruskin spirit without the well-dressed rant, the social sympathy of William Smart, Marshall's catholicity, with more humour than them all. "Under Capitalism all these millions saw "the light of the sun, smelt the scent of spring, knew love and "friendship, made and laughed at good and bad jokes, ate and "digested their meals, made their queer guesses at the secret of life, "played games, read books, cherished their hobbies and their "prejudices, knew a little, thought they knew much more, and went "their way leading others behind them to take up the thread of life "and spin another strip of its mysterious cloth. . . . Just "because it has not created an earthly Paradise for us, we throw "it down and put an untried system in its place. It is true that

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

"part of our population has lived and continues to live under circum-
"stances of which our civilization has every reason to be ashamed."

In the second half, Mr. Withers deals with the constructive proposals of State Socialism and of its rival and opponent Guild Socialism, and is about as trenchant and devastating as any critic has yet been. His haunting fear is that life will cease to be an adventure and become a drill. Standardisation, Prussianist regimentation, and an appalling loss of personal liberty, with no real increase in material welfare, must be our lot. If we cast out seven devils we shall certainly get seven others just as restless. "No "rearrangement . . . will do any good that fails to produce "good and sound men and women, any more than the most cunning "cooking-stove will make a good omelette out of bad eggs." In a fair criticism of the virtues and possibilities of bureaucracy, he shows that we have no reason to suppose that either now or by future development within our age can we expect to be equal to the gigantic task of the wise and detailed direction of our economic life, our likes and dislikes, our rewards and punishments, that either of these great alternatives to modern society would demand. J.C.S.

10.—*National Guilds and the State.* By S. G. Hobson. xvii + 406 pp., 8vo. London: Bell and Sons, 1920. Price 12*s.* 6*d.*

Mr. Hobson has already written on "National Guilds" and "Self-Government in Industry." The present book, though mainly a reply to critics, tells its own story in sufficiently plain language, much being ordinary economic doctrine disguised in the terminology of the Guild Socialists. Continuous thinking does not come easily to the man in the street, and working men are neither better nor worse than other folk in this respect. Yet it appears from this book that to be guildsmen they will need to think seriously and continuously, with a larger outlook, and more public spirit and wisdom than are common anywhere among us.

The ideal of Marx was a society of free men, with common ownership of the means of production, consciously employing their individual powers of labour as a social function, with a view to use, not profit (das Kapital I, Section 4). This remains the typical modern socialism, but it takes different forms. There is the bureaucratic, with the State all-important; there is the decentralizing, with the emphasis on the constituent groups, even as in the political philosophy of Figgis and Mr. Laski. In the language of American politics, the one is Republican, the other Democrat. Guild Socialism is of the latter class. Holding that the State should own all material property, it holds also that the whole body of workers in a particular trade should be a guild, owning, controlling, and disposing of their own labour. Employment for wages is to cease and each self-governing craft is to place the necessary surplus (which we dare not call profits) at the disposal of the community for the various services thereof (*e.g.*, 9, 48, 57 note, 77). The details of the proposal are not a subject for this journal. The author himself is not always

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

sure they are practicable (*e.g.*, 15); but about his general scheme he is as confident as Robert Owen. "A new moral world is in "formation," he tells us (97). It would need to be, for among the postulates of the scheme are change of heart and growth of intellect. If the small self-governing workshops of the Christian Socialists broke down, from lack of wisdom and training, the self-governing guild embracing all the workshops of a trade can hardly be within reach of the workers without preparation.

Mr. Hobson has himself well described the difficulties of control and management (85). There are other passages which appeal even to the unconverted reader. Such are the account of the Influence of the War on Labour (226 *seq.*, *cf.* 280), the chapter on the Workshop (172 *seq.*), and that on the Civil Service (292 *seq.*). When Mr. Hobson touches on currency, he is less helpful. It is impossible for such theorists, with all their efforts, to rid themselves of the present monetary basis of trade and production. A new kind of money and credit is hinted at (184, 250, and Pref. XI), but there is no more than a hint. The impression is given here and there that the new plan will be Barter (*e.g.*, 118). Many economists have described foreign trade so. But even in foreign trade we need a measure of value; the experiment of Owen's Equitable Bank of Exchange with its Labour Notes and all their difficulties would hardly be worth repeating.

It is known from the daily newspapers that Mr. Hobson has taken the chief part in the work of the Manchester Building Guild, an experiment which will be watched with great interest and sympathy even by sturdy individualists.

Many of us are prejudiced against Socialism as tyranny wherever found. There is much in this book to justify the prejudice (*e.g.*, 221). It depresses us also to hear that under the new régime our members of Parliament are likely to be mere delegates (123), in spite of Burke's time-honoured warning. But we recover our spirits when we go back to the concluding words of our author's Preface (xvii): "The threat of the compositors not to print certain opinions dis-"tasteful to trade union sentiment had better be considered very "seriously before it is accepted as a principle. *A la guerre comme* "*à la guerre*; it was incidental to the railway strike; but the pre-"servation of our right to speak, write, and publish what we do "veritably believe is a cardinal matter. It is more precious to the "community than any conceivable industrial organisation." A saying worthy of all acceptation. J.B

11.—*Co-operation in Scotland.* By James Lucas, M.A. 93 pp., 8 ins. × 5. (International Co-operative Series, No. 2.) 1920.

Co-operation in Denmark. By L. Smith-Gordon, M.A., and C. O'Brien, M.A. 74 pp., 8 ins. × 5. (International Co-operative Series, No. 4.) 1919. Manchester: The Co-operative Union, Limited, Holyoake House, Hanover Street. Price 2*s.* 6*d.* each.

The object of the series to which these two books belong is stated to be to enable both the student of co-operation and the general

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

reader to obtain knowledge of the co-operative movement. Volumes for England and Sweden are in course of preparation, and the authors of the volume for Denmark have also contributed one for Ireland. Others will be published shortly.

Mr. Lucas surveys the early days of co-operation in Scotland. His book is based mainly on the pioneer History of Scottish Co-operation by Sir William Maxwell, who was the chairman of the Scottish Wholesale Society, but he goes further back in tracing the genesis of co-operative organisations, as far back indeed as the time of William the Lion, A.D. 1179. Of modern co-operative stores, Maxwell dates the earliest at 1770, when a weavers' friendly society at Keswick combined to purchase oatmeal in bulk, and divide it among the members. One formed at Govan in 1777 survived until 1909 and then had to close its doors. It is curious that the same fate attended the Hull Flour Mill in England after an existence nearly as long.

It was at New Lanark, in Scotland, that Robert Owen founded his mill; but Mr. Lucas rightly urges that this "was not co-operation, "but benevolent and skilful despotism. Co-operation teaches men "to do things for themselves. Owen did things for them." He quotes as a typical society of those which originated upon the revival of the co-operative movement in the middle of the nineteenth century, the St. Cuthbert's Society, Edinburgh, established 1859, and traces its history and progress. As a type of the productive society, he cites the Paisley Co-operative Manufacturing Society, registered in 1863, which has extensive factories in and about Paisley, and the United Co-operative Baking Society of Glasgow, which is a federation of societies. Greatest of the federated class of society is the Scottish Co-operative Wholesale Society, founded in 1868. Statistical tables appended to the volume show the progress of this institution from that date to December, 1918. In the twenty years 1898–1918, its shares subscribed by other societies increased from 223,669 to 597,883; those subscribed by its own employees from 5,054 to 25,791; its total capital from 1,333,078*l.* to 5,778,569*l.*; its net sales for the year from 4,692,330*l.* to 19,216,763*l.*; its net profit from 165,581*l.* to 481,318*l.* The rate of dividend, which had varied from 7*d.* to 9*d.* was reduced to 5½*d.* in the year 1917 and 1918, probably on account of the war. The retail distributive co-operative societies in Scotland had, in 1911, 406,411 members, equal to 8½ per cent. of the population; their sales were 15,242,951*l.* on 3*l.* 4*s.* per head of the population, an average of 37*l.* 10*s.* for each member. In 1916 the co-operative societies of Scotland had 514,321 members, and a retail trade of 24,065,214*l.* or nearly 47*l.* per member; their wholesale trade was 12,287,448*l.* or 51 per cent. of the retail trade. The volume is illustrated by thirteen photographs and has a bibliography.

The book on co-operation in Denmark tends to show that the movement in that country has been the foundation of national prosperity. The great majority of the population of less than

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

three millions are farmers, and the conditions of the movement are widely different from those of the co-operative movement in Great Britain. The authors discuss the political events which have led to the adoption of the co-operative system in Denmark. The first co-operative creamery was founded in 1882. It is pointed out that the legal constitution of societies is different from that of societies in the United Kingdom. The period for which a creamery is formed is generally from ten to fifteen years. Within that time all borrowed capital must be paid off out of profits. At the end of it the members may start again. We are informed that co-operative credit societies play only a small part in the movement. The first distributive store was founded in 1866, on the model of the Rochdale Pioneers. A wholesale federation was created in 1871. There are in Denmark 400 cattle breeders' societies, 250 pig breeders' societies and 270 horse breeders' societies. The authors are of opinion that the co-operative movement in that country has triumphantly surmounted the difficulties it had to face during the war.

The statistics given in the volume do not correspond with those in the volume for Scotland, and it would perhaps be an advantage if the general editor of the series could arrange for as nearly uniform a set of statistical tables in each of the volumes belonging to it as could be obtained. By 1892 there were 800 creameries, and in 1914 there were 1,190. The distributive societies were 500 in 1890; and in 1915 there were 1,488 such societies in affiliation with the Danish Co-operative Wholesale Society, having 232,128 members, a distributive trade of 3,958,333*l.* and reserve funds of 139,583*l.* A bibliography is appended to this volume also.

The Co-operative Union is to be congratulated on its undertaking. The series of small handy volumes to which these two books belong will serve admirably to interest the public in the movement now making progress in so many countries, and to enlighten them as to its methods and its possibilities. In our own country, at least, these have been much misunderstood. The variety of the forms in which the movement expresses itself in the different countries, taking colour from their varying necessities and modes of thought, is well brought out in small treatises like these, written by well-informed authors, in a popular and pleasing style.

E.B.

12.—*Essays on Indian Economic Problems.* By Brij Narain, M.A. 307 pp., 8vo. Lahore: Panjabee Press, 1919. Price Rs. 2·8 as.

This little collection of essays opens with a sensible and broad-minded protest against the misconception common amongst Indian economists that their science, as expounded in the West, is inapplicable to their country, the conditions of which demand a different and independent set of principles. The author, on the contrary, thinking historically, looks upon economics as the scientific expression of the rules of sound business carried on under the social and material conditions of contemporary life. He holds,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

accordingly, that the conditions prevailing in India are as susceptible of elucidation on the general principles of economic inquiry as the very different facts to which that method has been applied in other countries. There is something in all this which, to those whose memory reaches back half a century, recalls what may be called, without irreverence, a notable "set-to" in the House of Commons between Mill and Robert Lowe, the former defending political economy against the damaging claims made on its behalf by the latter. "In his Right Hon. friend's mind," said the philosopher, "political economy appears to stand for a set of practical maxims. ". . . So far from being a set of maxims and rules to be "applied without regard to times, place and circumstances, the "function of political economy is to find the rules which govern "any circumstances with which we have to deal—circumstances "which are never the same in any two cases." It is true, as our author points out, that in the last twenty-five years, and even within half that time, the "modernising" of India has made remarkable progress in certain directions; but fundamental factors, such as the pronounced agricultural bias, village communal life, and above all, the influence of caste, are inimical to a rapid industrial revolution, and some of the changes to which he refers may be tending towards results which cannot yet be foreseen. Great importance is attached by the author to the development of home industries, and he is in full accord with the Industrial Commission on this subject, including their support of increased State activity in fostering manufacturing enterprise. Like all Indian economists, he regards the cause of home manufacturing as hopeless as long as the "infant industries" are liable to be flooded out at any moment by foreign competition. He is in favour, therefore, of adequate protection against the rivalry of highly developed industrial communities, such as those of Europe, Japan and the United States. It follows that he is equally strenuous in his objection to leaving any breach in the wall in the form of Imperial preference. Here, however, he is on ground which seems less familiar to him. His essays upon the course of prices in India will be read with interest, especially as they include information and some points of view not usually available in this country. Interwoven with these are his views on the currency question, to which he has devoted much careful attention. He advocates the substitution of a gold currency for a gold exchange, and in this he is not without influential support in various quarters. In the present chaos of international finance, however, a drastic change in any one country is unlikely to have the results anticipated, and deflation will probably be brought about by means operating indirectly and gradually. Most of the essays here collected were published in Indian periodicals, and it is to be hoped that the author will continue to contribute in this way to enlighten his readers upon other difficult economic questions similar to those to which he has here given much acute and sedulous consideration.

J.A.B.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

13.—*Other New Publications.**

The American Labor Year Book, 1919–20. Edited by A. Trachtenberg. 447 pp., 8vo. New York: Rand School of Social Science, 1920. Price $2 net.

[A useful compilation for all interested in labour questions, more especially in the United States. This is the third issue of the book, and the material, though new, is based largely on articles which appeared in earlier issues, which are, however, not superseded by the present volume. The book is divided into the the following parts:—(1) Labour during the War, dealing with the economic, political and legal effects of the War on Labour. (2) The Labour movement in the United States. (3) Labour and the law, reviewing decisions affecting labour generally. (4) Social and economic conditions, dealing with the cost of living, profiteering and other social topics. (5) The International Socialist, Labour and Co-operative movement. (6) The Socialist movement in the United States. There is a fair Index, and the book on the whole is a useful record of the Labour, Socialist and Co-operative movements in the United States and other countries.]

Bogart (*Ernest L.*). Direct and Indirect Costs of the Great World War. (Carnegie Endowment for International Peace.) vi + 338 pp., 8vo. New York: Oxford University Press, 1919.

[This book is an amplification of Professor Bogart's earlier pamphlet on the cost of the war, which was published in 1918 and noticed in the *Journal* for March, 1919. The demand for the earlier work was so great that it was decided to issue a new edition, and the opportunity was taken to go into the matter more exhaustively, with the result that the present work is virtually a new book. The comparisons of the cost of the war with estimates of national wealth and national income, to which exception was taken in the *Statistical Journal*, have been omitted in the present volume, and there is a most useful bibliography and an index.]

"*Economist*." The Economic Crisis in Europe. 30 pp., 8vo. London: British Periodicals, Ltd., 1920. Price 1*s*. net.

[A very brief and readable account of the present economic state of Europe and of its causes, written for the uninformed. The facts are clearly given, with enough figures to drive them home, and a list of the half-dozen books on which both facts and conclusions are based indicates the way to ampler knowledge.]

Elbourne (*Edward T.*). The Management Problem (Manufacturing Problem Series). 144 pp., 8vo. London: The Library Press, Ltd., 1919. Price 4*s*. 6*d*. net.

[As might be expected from the name on the title-page, this is a thoroughly practical contribution to the literature of industrial reconstruction. The conclusions are, in fact, the outcome of experience gained by the author's own firm during the war period. Mr. Elbourne recognises two principles on which reconstruction should be based—the ethical, and the economic—the one to be expressed in co-ordination, the other in output; and goes on to explain the actual methods by which these results may be secured. He observes that management has been too much identified with capital in the past, and describes the system of labour administration arrived at by himself and his partner through the agency of a Works Investigation Officer and a Works Co-ordinating Committee. As regards output, he favours some method of payment by results, explains the working of the premium and bonus systems at present in use, and discusses production control in its application to the Engineering Trades. On the matter of manufacturing policy

* See also "Additions to Library," page 528, *sqq*.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Elbourne (*Edward T.*). The Management Problem—*Contd.*

he heartily and even gratefully endorses the findings of the Board of Trade Departmental Committee on the position of the Engineering Trades after the war, and advocates a thorough re-organisation and co-ordination on the American lines of obviating waste by working in as large units and with as much standardisation as possible.]

Fisheries in the Great War, being the Report on Sea Fisheries for 1915–18, of the Board of Agriculture and Fisheries. Parts I and II. Cmd. 585. 8vo. 1920. Price 2*s*. net.

[It is not often that the Report of a Government Department can be otherwise than somewhat prosaic. In this one, however, there are pages which are stirring reading, and reflect the courage of the men who kept the seas despite the fact that to its normal perils were added the dangers of mines and submarines, and the sudden attacks of enemy surface vessels. In addition, the report deals with the various activities of the fishing industry during the war, and shows its vital importance to the country as a whole.]

Gattie Committee. Report of the Departmental Committee appointed to investigate Mr. A. W. Gattie's proposals for improving the method of handling Goods and Traffic, and to consider the practicability of the introduction of any of the suggested improvements into the existing Transport System. Cmd. 492. 1919.

[The Committee, which included those having experience of transport both by land and sea, examined 36 witnesses, and accepted all evidence that was offered from whatever source. The present system of handling goods traffic and the attitude of the railway companies to the proposed scheme were examined, and also estimates of its cost. The Committee's objections to the scheme fall under seven heads, and these are given in detail in their report, and clearly show its impracticability.]

Jenkins (*D. T.*). The Sea Fisheries. xxxi + 299 pp., 8vo. London: Constable and Co., Ltd., 1920. Price 24*s*. net.

[This handsome volume has been compiled with a view to giving in handy form information as to fishery administration and the conditions under which the sea fisheries are generally carried on. The author has been in the service of the Lancashire and Western Sea Fisheries for many years, so he is well fitted for his task, which deals with the subject in all its aspects. The book consists of some thirteen chapters, with statistical appendices, a bibliography and an index. The first chapter deals with statistical methods and the collection of statistics in the three divisions of the Kingdom, and the efforts that have been made to improve and extend them at different periods are fully described. Attention is also called to certain defects still in existence, such as the lack of uniformity in the compilation of the statistical data of the English, Scotch and Irish Fisheries, and the incompleteness of the returns of the numbers employed in the industry. Other chapters deal with the methods of fishing, the rise of the herring fisheries, the development of steam trawling and legislation in regard to sea fisheries. As regards legislation for the protection and development of fisheries, the author, who is a barrister, states that it bristles with difficulties, and must be of an international character to be effective. Chapter 8 deals with the Inshore Fisheries, and the author contends there should be remunerative employment for those engaged in it without curtailing the field of operations or the dividends of the steam fishing companies. The education of fishermen and scientific research are also discussed, and, in a final chapter, Foreign and Colonial Fishery Administrations are briefly though adequately reviewed, and references given to the books dealing fully with fisheries in the countries in question. The war

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Jenkins (*D. T.*). The Sea Fisheries—*Con'd.*

naturally influenced the fisheries of North-East Europe to a profound extent; the author considers, however, that its effects will be but of a transient nature, and that the fisheries will soon recover.]

Milnes (*Alfred*). Economics for To-day. An elementary view. 256 pp., 8vo. London and Toronto: J. M. Dent and Sons, Ltd., 1920. Price 3*s.* 6*d.* net.

[Another of the author's useful contributions towards spreading the comprehension of rudimentary economic facts. In this case the presentation is elementary in the extreme—a slight sketch of a wide range of country. The main divisions are (1) Making; dealing with demand, supply and production; (2) Preliminary View of Exchange; (3) Sharing the Produce, Rent, Earnings, Labour, Interest, Profits; (4) Exchange, Credit, Banking, Foreign Exchange, Index number, &c. The treatment is easy and allusive, as may be seen from such headings in the index as "Robert Burns" and "Danegeld." The statement on p. 217 that the clearing banks are "at present eighteen in number" might have been corrected in a book issued in 1920.]

Ministry of Food. First Report of the Departmental Committee on the Wholesale Food Markets of London, February 23, 1920. Cmd. 634. 1920.

[The Committee was appointed to consider whether the existing markets were generally adequate, and to report on the influence of wholesale market facilities on food prices, and on any possible improvements in the wholesale distribution of food by means of public markets. Though the Committee have not finished their inquiries, they have heard sufficient evidence to convince them that in the case of certain markets, improvements and extensions are urgently needed; and they find there is no existing authority to deal with this question. Their first report, therefore, is limited to the question of the constitution of a market authority for London.]

Penzer (*N. M.*). Cotton in British West Africa, including Togoland and the Cameroons. (Federation of British Industries.) 53 pp., 8vo. London: T. Murby and Co., 1920. Price 5*s.* net.

[A useful book containing, in handy form, the information available as to the methods of cultivation and the varieties of cotton at present grown on the West Coast of Africa, and on the possibilities of its extension. The book opens with an historical sketch of the industry and of the work of the British Cotton Growing Association. The Lake Chad District is also described, and such statistics as are available have been brought together. There is a full and impartial bibliography.]

Profit Sharing and Labour Co-Partnership. Ministry of Labour (Intelligence and Statistics Department). Report on Profit-Sharing and Labour Co-Partnership in the United Kingdom. Cmd. 544. 8vo. 1920. Price 1*s.* net.

[The last Report on this subject was issued in 1912, and has long been out of print, and as there have been many inquiries for later information, it was decided to issue a further general survey of the whole movement in this country. The Report is divided into two parts, the first dealing with profit-sharing in businesses other than co-operative societies, and the other with schemes of this nature worked by co-operative societies. A section of the Report is given to a definition and interpretation of the terms "Profit-Sharing" and "Labour Co-partnership," because they are often used in a loose sense. The number of schemes in existence towards the end of 1919 was 182, and these were the survivors of some 380 schemes which had been started at one time or another since 1865, one of them dating from 1829. Attention is drawn to the fact that a wave of interest in profit-sharing is generally associated with periods of industrial unrest.]

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Schooling (*William*). Value for Money. The Influence of Wise Spending on National Prosperity. 156 pp., 8vo. London: Sir Isaac Pitman and Sons, 1920. Price 2*s*. 6*d*. net.

[The subject and the object of the book, which are but hinted at in the title, are conveyed in the introduction, where the author states that it is an attempt "to show the soundness of the social and economic "foundations upon which" the War Savings Movement "is built up, "and . . . the consequences . . . which will follow its "continuance and development." The book is, in fact, a reasoned plea for National Saving for the sake of both individual and national advantage. The real cost of the war and its distribution, the methods of financing war, inflation, and waste, are some of the matters incidentally dealt with on simple lines; tables of the yield of National Savings Certificates are given, and a scheme is formulated for investment on a large scale at cumulative interest without dividends, income tax being paid on a uniform amount, representing the *average* annual yield. The advantages of Savings Certificates in relation to Group insurance schemes are shown in the last chapter on Pensions and Policies.]

Strakosch (*Henry*). The South African Currency and Exchange Problem. 34 pp., 8vo. Johannesburg, 1920. Price 6*d*.

[This pamphlet had its origin in a request from the Prime Minister of the Union for the author's views on the currency problem as it affects South Africa, a solution of which on right lines is of vital importance to the country. It is a careful survey of present economic conditions in South Africa, and an examination of the proposals made by the Gold Conference which met in Pretoria in October last. It is suggested that "Treasury Gold Certificates" be created, and that there should be deposited in the Treasury sufficient gold coin or bullion which, taken at the standard price, would redeem the whole outstanding issue of the certificates.

A revision and unification of the banking laws of the Union is also urged, and the establishment of a Central Reserve Bank on the lines of the Federal Reserve System of the U.S.A.]

Zorn (*John*). Thoughts on a Capital Levy. 50 pp. London: St. Clement's Press, 1920. Price 2*s*. net.

[Mr. Zorn has continued to meditate since the publication of his former "Thoughts," noticed a year ago and embodied in this larger brochure. The scope and result of this may be learned from his "Conclusions," which are, in the main, that since National Debt forms no part of effective capital wealth, the abolition of debt held internally is a matter of re-arrangement of claims and credits; that redemption would on the whole involve less hardship and injustice than retention; that redemption can be effected without any loss of national productive power, especially if liberal bank credit be afforded to business; that abolition could be made by a scientifically graduated capital levy, but that a levy on war-time profits would be impracticable and unjust; and that abolition of debt would, by reducing the rate of interest, be of immense benefit to production and trade. These conclusions are the answers to six questions posed at the beginning of the essay, and are arrived at by the reasoning and on the figures shown in the intervening pages. Though the paper was written in anticipation of this year's Budget, the author's clear presentation of the matters dealt with should still be serviceable.]

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CURRENT NOTES.

The Trade Returns for April show a considerable reduction in the value of the imports, in comparison with the totals for the previous months of the present year. A very large reduction is shown in the imports of raw cotton. The value of the exports of produce and manufactures of the United Kingdom reached 106,252,000*l.*, the largest monthly total ever recorded. Of this amount articles classed as wholly or mainly manufactured accounted for 88,689,000*l.*, an increase of 5,300,000*l.* on the value for March. Since the armistice, these exports have expanded rapidly from 31,547,000*l.*, the value for December, 1918, as will be seen from the figures given below, which show monthly averages for the quarters of 1919 and the values for the four months of 1920. The figures are given side by side with the values of the net imports of raw materials in each period :—

	Net imports of raw materials and articles mainly unmanufactured.	Exports of articles wholly or mainly manufactured.
	£'000.	£'000.
1919—		
First quarter (monthly average)	40,265	40,611
Second ,, ,, ,, ...	45,006	49,577
Third ,, ,, ,, ...	55,899	54,638
Fourth ,, ,, ,, ...	63,116	67,753
1920—		
January	61,994	83,086
February	64,411	66,733
March	57,773	83,387
April	58,816	88,689

The net imports of raw cotton since August 1, 1919, have amounted to 18,304,000 centals, a reduction of only 205,000 centals compared with the corresponding period of 1913–14. The corresponding values for the two periods show an increase from 60,274,000*l.* to 227,136,000*l.* For the corresponding period a year ago the net imports amounted to 11,409,000 centals valued at 112,181,000*l.* The exports of cotton yarns and manufactures have increased from 189,190,000*l.* during the twelve months ended April, 1919, to 294,405,000*l.* during the corresponding period 1919–20, and formed 42 per cent. and 37 per cent. respectively of the total value of the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

exports classed as wholly or mainly manufactured in the two periods of twelve months.

The summary given below shows for the twelve months ended April 30 an excess value of net imports over exports of United Kingdom produce and manufactures amounting to 648,230,000*l.* compared with 747,790,000*l.* in the twelve months a year earlier. The net imports were valued at over 26 per cent. more than in the twelve months ended April, 1919, and the domestic exports at over 80 per cent. more.

A considerable recovery is shown in the tonnage of shipping entering and clearing with cargoes in the foreign trade, the entrances for the twelve months ended April being 37 per cent. more and the clearances over 42 per cent. more than those of a year earlier.

The estimated weight of the imports, as published in the *Board of Trade Journal* for the twelve months is 42,179,000 tons, of which 13,423,000 tons represent the estimate for the four months, January to April, of the present year. For the four months a year earlier the estimate is 10,207,000 tons. The exports of United Kingdom products are estimated at 15,358,000 tons in the four months of 1920, including 11,858,000 tons in respect of coal, coke and manufactured fuel, and at 14,533,000 tons in the corresponding period of 1919, coal, coke and manufactured fuel accounting for 12,410,000 tons. The estimates for exports of foreign and colonial merchandise are 626,000 tons for the four months of 1920, and 376,000 tons for the period of 1919.

The values of the principal classes of merchandise imported and exported in the twelve months ended April, 1920, and 1919, respectively, are shown in the following table. The figures have been adjusted, so far as possible, in order to fall in with the changes of grouping consequent on the operation of the revised import and export list from the beginning of the present year :—

(000's omitted.)

	Twelve months ended April, 1920.	Twelve months ended April, 1919.	Increase (+) or decrease (−).
Imports, value c.i.f.—	£'000.	£'000.	£'000.
I. Food, drink and tobacco	765,248,	601,821,	+ 163,427,
II. Raw materials and articles mainly unmanufactured	758,045,	411,991,	+ 346,054,
III. Articles wholly or mainly manufactured.....	341,611,	329,676,	+ 11,935,
IV. and V. Animals, not for food, parcel post, &c.	5,503,	6,387,	− 884,
Total merchandise	1,870,407,	1,349,875	+ 520,532,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(000's omitted.)

	Twelve months ended April, 1920.	Twelve months ended April, 1919.	Increase (+) or Decrease (−).
Exports of produce and manufactures of the United Kingdom, value f.o.b.—	£'000.	£'000.	£'000.
I. Food, drink and tobacco	43,156,	15,358,	+ 27,798,
II. Raw materials and articles mainly unmanufactured	147,177,	64,047,	+ 83,130,
III. Articles wholly or mainly manufactured.....	789,533,	451,877,	+ 337,656,
IV. and V. Animals, not for food, parcel post, &c.	14,453,	19,147,	− 4,694,
Exports of foreign and colonial merchandise, value f.o.b.—			
I. Food, drink and tobacco	46,847,	14,209,	+ 32,638,
II. Raw materials and articles mainly unmanufactured	142,497,	19,406,	+ 123,091,
III. Articles wholly or mainly manufactured.....	38,389,	18,037,	+ 20,352,
IV. and V. Animals, not for food, parcel post, &c.	121,	5,	+ 116,
Total British, foreign and colonial	1,222,173,	602,086,	+ 620,087,
Shipping—	Tons net. '000.	Tons net. '000.	Tons net. '000.
Total, British and foreign, *entered* with cargoes	32,480,	23,703,	+ 8,777,
Total, British and foreign, *cleared* with cargoes	36,551,	25,629,	+ 10,922,

In continuation of statistics relating to employment within the United Kingdom, quoted on p. 322 of the March JOURNAL, returns from trade unions with a membership of about a million and a half showed 1·6 per cent. of their members as unemployed at the end of February, as compared with 2·9 per cent. a month before. This decrease was due mainly to the improvement in employment in the engineering trade as a result of the termination of the dispute in the foundries. March showed a further improvement, and by the end of that month the percentage of unemployment had fallen to 1·1. These returns cover mainly skilled trades, but the information available as to other industries shows the same general movement. Thus in the industries covered by the Unemployment Insurance Acts, including demobilised members of H.M. Forces claiming out-of-work donation, the percentage of unemployment fell from 6·1 at the end of January to 4·4 at the end of February, and further to 3·6 at the end of March. The total number of ex-Service men and women claiming out-of-work donation decreased by 83,034 in

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

February, and by 51,513 in March, leaving the total claims on the 26th of the latter month at 237,626. Returns received from employers indicate a steady expansion in the numbers engaged, with a considerable increase in the total of wages paid.

Week ending	Textile trades Percentage change on a year ago.		All trades covered by the returns. Percentage change on a year ago.	
	Numbers employed.	Wages paid.	Numbers employed.	Wages paid.
February 21	+18·2	+44·2	+19·5	+46·1
March 27	+16·9	+45·7	+16·9	+45·0

According to the *Reichsanzeiger* of February 28, conditions of employment in Germany continued throughout January to be very adversely affected by the shortage of coal, and the percentage of unemployment in trade unions, with a total membership of nearly 4¾ million, reached 3·3 per cent., as compared with 2·9 per cent. in December and 6·6 per cent. a year before.

Returns from trade unions in Holland available up to October of last year show a steady improvement in industrial conditions, the percentage of unemployed falling from 5 in September to 4 in October, or less than half the rate of a year before. In Norway, the corresponding rate rose sharply during December, reaching its seasonal maximum (2·8 per cent.) at the end of that month, and thereafter declining in January to 2·4 per cent.; the corresponding seasonal maximum a year before was 4·3 per cent. In the neighbouring country of Sweden the maximum on the trade union figures at the end of December was somewhat less (3·8 per cent.), but this compares unfavourably with that of December, 1918, viz. 3·4 per cent.

In continuation of figures previously quoted from the Canadian *Labour Gazette*, the trade union percentage of unemployment, which began an upward movement in September, continued to rise from 2·71 for October to 3·58 for November and 4·98 for December. This seasonal movement compares unfavourably with that of a year before, which reached only 2·76 in December, the most important industries involved being those engaged in building and construction, navigation and dock labour, and the food trades. According to the information published by the *Monthly Labour Review* of the United States Bureau of Labour Statistics, illustrating the volume of employment in thirteen important industries, there was a general

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

slight contraction of employment in February as compared with January, the only exceptions being the iron and steel, the automobile manufacturing and men's clothing groups, where the increases also were very small. When comparison is made with February of 1919, a very decided change is observable; in eleven of the industries there are increases, in nearly every case substantial, and reaching 52·3 per cent. in cotton finishing and 124·9 per cent. in the woollen industry; there was a decrease of 15·9 per cent. in railway and tramcar building and repairing, and one of 9·7 per cent. in cigar manufacturing.

The average rise of retail food prices in the United Kingdom since July, 1914, which was put by the Ministry of Labour at 135 per cent. on February 2, fell slightly to 133 per cent. on March 1, and rose again to 135 per cent. on April 1. The general movement during the two months was that the seasonal decline in the prices of home dairy produce, which normally leads to a downward movement at this time of the year, even with the assistance of the reduction in the price of imported mutton, was counterbalanced by the advance of Government butter from 2*s.* 8*d.* to 3*s.* per lb. and of sugar from 8*d.* to 10*d.* per lb., and by the seasonal increase in the price of potatoes, which, owing to the shortage of last year's crop, has been greater than usual. Owing to the disappearance of reliable data with the relaxation of control, it is no longer possible to quote estimates of variation in the *expenditure* upon food. If rent, fuel, clothing, &c., be included with food, the average increase in prices on the pre-war standard of comfort, which stood at 130 per cent. on February 2, remained at that figure a month later, and rose to 132 per cent. on April 1. The increases included in the last-named figure were 10 per cent. for rent and rates, 310 to 320 per cent. for clothing, 75 per cent. for coal, and 80 to 85 per cent. for light.

The latest official data reproduced in the *Labour Gazette* indicate a continuation of the upward tendency of retail prices in the principal countries of the world. Taking first the evidence for other parts of the British Empire, in Canada a further increase of 2·6 per cent. in retail food prices in February brought the total increase since July, 1914, to 111·6 per cent. If fuel, lighting and rent are included, the corresponding increase was only 74 per cent., the difference between the two indices being mainly explained by the fact that the increase in rent included in the wider survey was only 15 per cent. In New Zealand the total increase in retail food prices up

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

to March amounted to 61·7 per cent., representing an advance of 1·3 per cent. on the preceding month.

The general level of retail food prices in the United States rose further by 2 per cent. between December and January, but this movement was checked in the following month, when a small decrease of 0·5 per cent. occurred, leaving the general level in February 96 per cent. above that of July, 1914. Turning now to our late Continental Allies, we find that in Paris the increase in retail food prices in February reached the high figure of 14·1 per cent., thus carrying the total increase since the outbreak of the war to 239 per cent. In the Italian capital the increase in food prices for February was little less alarming (9 per cent.) and the total increase reached 199 per cent. When clothing, fuel, lighting, rent, &c., are included, the latter increase is only slightly reduced to one of 193 per cent. In Milan, where the rate of increase had hitherto greatly exceeded that at Rome, there was a fall of 2·9 per cent. in retail food prices between February and March, leaving the total increase at 306 per cent. For the general cost of living in Milan the decrease for the month was 2 per cent., and the total increase above the pre-war level was 274 per cent. In neutral countries the total increase is not so great, or the upward movement so sharp, but the latter is still there as shown by the latest official data available. In Norway general retail prices rose by 0·4 per cent. in December, and the total increase up to that month was 201 per cent., or 199 per cent. for food prices alone. In Sweden, after a downward movement, general retail prices again rose slightly in March, reaching a level 191 per cent. above that of July, 1914. In Denmark the estimates are now prepared at half-yearly intervals. Those for January show increases since July, 1919, amounting to 18·5 per cent. for food prices and 14·6 per cent. for the prices of household requirements generally, or since July, 1914, increases of 151·3 and 141·9 per cent. respectively. After the figures quoted for other continental countries, the increase of retail food prices in Holland (Amsterdam) up to February, viz., 105·1 per cent., seems small, but even this is 0·9 per cent. higher than those of a month before.

As regards wholesale prices in the United Kingdom, the *Statist* index-number showed an increase of 6·2 per cent. in February, but in March the movement was negligible in comparison with previous months, the increase amounting to only 0·4 per cent. The total effect over the two months was a rise in the index from 245·3 at the end of January to 261·4 at the end of March, as compared with 82·4 for July, 1914. The corresponding increase shown by the

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

Economist index-number was slightly greater, viz., 5 per cent. in February, followed by 2·4 per cent. in March, thus raising the index-number from 353·1 at the end of January to 379·6 at the end of March, as compared with 116·6 at the end of July, 1914.

The eight volumes of evidence with the Report of the Royal Commission on the Income-Tax indicate the immense field that has been covered by this body in the short space of less than a year, and show an unparalleled degree of despatch for such a difficult matter of enquiry. One wonders how many of the members can really have mastered all the highly technical questions with which the report deals in so decisive and interesting a manner, and therefore to what extent the wide range of interests comprised by the personnel of the Commission has had an equal opportunity for finding expression.

The most remarkable feature of the Report, next to the promptness with which it has been issued, is the extent to which unanimity has been secured. The dissentient reservations are insignificant in scope, and men of every party and standing are found in agreement upon such highly debatable subjects as the exemption limit, the scope of supertax, the prevention of evasion, the relief of double taxation, and the personal allowances. They are unanimous, too, upon the question of the administration and the relative positions of the unpaid commissioners and of the paid official. A careful inspection of the evidence, together with the Report, shows that much rubbish has been written on this subject, and that the Press, as a whole, has been badly misinformed on the subject of the real position of the District Commissioners. The *Morning Post* has recently given the subject a more extended study, and come to more moderate and accurately informed views. The fact is that a particularly influential vested interest has found itself in danger, and has coerced the Press into trying to induce the public to believe that the whole of this large varied Commission has been in conspiracy to defeat the general interest and hand over the taxpayer to a horde of unscrupulous bureaucrats.

The Commission has reported in favour of the maintenance of taxation at the source, and therefore against the taxation of the individual upon his whole income in one sum. From the point of view of statistics this has long been a great drawback, because the statistics of incomes obtainable under such a system as the British have always been inferior in detail to those given by such systems as the Prussian. If the question of statistics were paramount—as against the efficiency of the tax and its acceptability—there is no

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

doubt we should prefer the latter. But is it better to have highly detailed and exact statistics of something that in itself differs from the truth, or less perfect and satisfying statistics of things that so far as they go are true representations of facts ? This is practically the statistical choice offered to us. Would one rather examine his countenance in a distorting mirror of perfect surface, size and brightness, or in a plane mirror, smaller, cracked and dim, if he wished for a true judgment ?

The question of the distribution of incomes in the United Kingdom has rested upon the evidence afforded by the number of abatements in each grade up to 700*l.* incomes, by the total sums charged at different rates up to 2,500*l.*, and by the direct individual returns to supertax over that figure. Of these, by far the most important has been the first. On account of the recent complexities of the tax there is now only quite a narrow range of income (below the supertax level) the recipients of which have no reason for making individual returns. But under the proposals of the Commission this statistical " sheet-anchor " has gone, for they propose the abolition of the abatements which secured the graduation of the tax and of the numerous rates, and the substitution of " taxable income " with only the standard and half the standard rate of tax. It can best be summarized by saying that all the large class from about 500*l.* per annum to 2,000*l.*, do not need to make any total income return in order to be properly charged, for the deduction of the standard rate from property, income and dividends automatically results in the true effective rate being borne by the whole income. This ingenious device, while an absolute boon to the taxpayer and the administration, would be disastrous statistically, as it moves right away from the trend of modern ideas that everyone should declare his total income. The Commission have recognized this, and propose that such an obligation shall remain for statistical purposes, even though it may not be effectively required for direct taxation. It is to be hoped, therefore, that the problem of the distribution of income will, after all, be made more susceptible of solution than heretofore. We are bound to remember, however, that in the past unless particular figures have been fiscally important, they have been statistically weak, and it will require a new spirit of statistical enquiry to bring about a change in this respect where, in a decentralized system with hundreds of officials, a greater interest rests—rightly—in the production or rescue of revenues than in the extrication of social facts.

Most Royal Commissions succeed in obtaining special statistical returns which, supplementary to the regular published statements,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

are of particular interest. The most important statistical statement obtained by the Royal Commission on the Income-Tax is that contained in the Appendix to the Second Volume of the Evidence, which gives an official estimate, for the first time, of the distribution amongst individuals of the total income brought under charge to the tax. Hitherto it has been necessary to "construct" a distribution by using the supertax numbers at one end, the abatements at the other, and the Pareto formula for interpolation. But, as Dr. Bowley has shown, the Pareto index derived from the lower data gave a line running parallel to, and never meeting, the line derived from the Pareto index based on the upper data. The true explanation is, of course, mainly in the fact that there is a considerable section of the taxable income which is "in the air" and not assignable to individual incomes at all. This table is of the greatest interest, and forms a landmark in the study of the distribution of incomes in this country. Unfortunately, it relates only to war-time incomes, with the remarkable earnings of weekly wage-earners working full pressure, and it may need to be severely qualified before it is taken as an indication of the actual condition under normal circumstances in the lower ranges of income.

Die Bevölkerungsbewegung im Weltkrieg, by C. Döring, III, is the third volume in the series already noted in these columns. Its scope is fairly indicated by the sub-title, "35 Millionen Menschenverlust "in Europa." The sections dealing with Germany and Austria-Hungary have already been dealt with, and in this Mr. Döring summarises the negative and positive losses of all the belligerent European countries down to the middle of 1919, or roughly nine months after the armistice. His figures as to the losses of the smaller States—Belgium, Bulgaria, Servia, Roumania—and of Russia are estimates and must be taken with reserve. In our own view they are likely to prove to err on the side of moderation rather than of excess. His total loss is made up of (1) fall in births, 20,250,000; (2) killed in the war, 9,829,000; and (3) increased mortality among the civil populations, 5,301,000. Thus the negative loss was 57 per cent. of the whole, and the positive 43 per cent. made up of 28 per cent. direct and 15 per cent. indirect. The effect on the populations of the countries concerned has been that while in normal conditions there should have been an increase from 1914 to mid-year 1919 of 24 millions, there has been an actual decline of 11 millions. The sex proportions in these populations have been profoundly modified. While in Bulgaria and Roumania the sexes in the total population are approximately equally divided, there are to 1,000 males, 1,047 females in Belgium, 1,060 in Russia, 1,070 in Italy, about 1,100 in

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

the United Kingdom, Austria-Hungary and Germany, 1,120 in France, and over 1,300 in Serbia! This disproportion is of course much accentuated in the age classes from 18 to 45, where it is 1,175 in the United Kingdom, 1,180 in Germany, and 1,230 in Austria-Hungary, France and Italy.

Of the great European Powers engaged in the war (excluding Russia), this country suffered the lowest relative losses, negative and positive. The decline in births was 53 per cent. in Austria-Hungary, 47 per cent. in France, 46 per cent. in Germany, 29 per cent. in Italy, and only 18 per cent. in the United Kingdom. The killed in action represented 3·5 per cent. of the total population of France in 1913, 3 per cent. of that of Germany, 2·9 per cent. of that of Austria-Hungary, and 1·7 per cent. of those of Italy and the United Kingdom, while on the same basis the loss by increase of deaths was 1·1 per cent. of total population in France and Austria-Hungary, 1 per cent. in Germany, 0·8 per cent. in Italy, and 0·5 per cent. in the United Kingdom. Of the smaller States Belgium and Bulgaria suffered least, but Serbia's losses on all counts were appalling. According to Mr. Döring's calculations, while the populations of Bulgaria and Roumania show a slight increase over pre-war figures and that of Belgium a fall of only 225,000, Serbia's population fell by 1,200,000, a fall of over 25 per cent.! As to Russia, the figures are largely conjectural, and as we know, that unhappy country is still remote from normal conditions. Mr. Döring reckons a loss by fall of births and increase of deaths to mid-year 1919 in European Russia (including Poland) of 13 millions, and that the total population was down by 3 millions from the 1913 figures.

The results of an intensive study of infant mortality in Saginaw, a city of 50,000 inhabitants in Michigan, are embodied in the ninth publication of the Infant Mortality Series of the U.S. Children's Bureau. The plan of investigation is to select certain typical urban areas in different States and by visiting the mothers to fill in a comprehensive schedule for every baby born during twelve months, tracing it throughout the first year of its life, and noting the deaths which have occurred amongst these births. Particulars of housing, feeding, occupation, income, mother's work if any, nationality, previous family, &c., &c., are obtained, and in this way it is possible to present a very complete study of the conditions governing infant mortality in the areas selected. The method appears to have much to recommend it, and incidentally presents a very interesting statistical picture of the physical conditions of life in a medium-sized town of the Middle West. In some respects the picture is surprisingly unattractive, and when we read of periodical floods,

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

leaky privies adjoining shallow wells as the prevailing methods of sewage disposal and water-supply, and garbage thrown upon the roadways as an ordinary routine, it seems surprising that the infant mortality rate should be as low as 84·6 per 1,000. But there are no slums, no rows of houses even, so that light and air are universally plentiful, little poverty, and evidently a fairly high general standard of intelligence. Mothers are generally free to look after their children, 90 per cent. of whom are breast-fed during the first two months of life. Evidently these advantages more than counterbalance the disadvantages mentioned, for in eastern manufacturing towns previously reported upon, where the conditions of life more nearly resemble those of similar towns in this country, the infant mortality rates established were much higher. The number of births registered during the year was 1,113, but local inquiry added 116 births to resident married mothers. The stillbirth ratio was 3·3 per cent. The Children's Bureau is evidently doing most useful work in conducting these investigations, which are carried out by a female staff of "special agents."

The Intelligence Department of the Federation of British Industries has recently issued a *Financial Review of* 1919. Though this contains little in the way of information which is not available from the many reviews issued by financial organizations in the early days of the new year, it shows an ambition quite in keeping with the general policy of the Federation. Its achievement is, perhaps, hardly in keeping with its ambition, and statistical students will be critical of the results attained in its attempt to determine "the "actual value of the £ sterling as a percentage of the 'par' or pre-war "value." Stripped of its algebraical scaffolding, the method consists in finding the "weighted" average of the percentage value of the £ sterling in terms of the currencies of eleven countries. The "weights" are the exports (presumably the exports to all countries and not only to the United Kingdom) of the countries concerned, and the gratifying conclusion is reached that the actual value of the £ sterling during 1919 averaged 96 per cent. of the "par" or pre-war value. The problem suggested is an interesting one, but it can hardly be solved in the simple manner devised by the Federation.

The pamphlet contains a useful summary of the prices of certain raw materials month by month throughout the year. The difficulties of giving reliable quotations of raw material prices are considerable, and the list in question is not entirely free from the deficiencies which mar the quotations given by weekly journals. No doubt, however, the Federation will direct its energies towards the perfection of such a list, since there is urgent need for reliable

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Sámaj Foundation Chennai and eGangotri

figures which can be used by the economist without incurring the adverse criticism of the trade expert.

A useful memorandum, issued by the Amalgamated Union of Co-operative and Commercial Employees and Associated Workers, and written by their General Secretary, Mr. H. Hallsworth, gives a detailed account of the wages received by Co-operative shop managers in Yorkshire, Lancashire, and the North-Western counties, from 1903 onwards. The average maximum and minimum as well as the general average wage of this class of worker, at various periods, with the variations in different areas and for different trades and the distribution of the increases obtained in 1919, are shown in tabular form and illustrated by diagrams. Until the agreement arrived at in August, 1919, as a result of the demands made by the Union in May and the strike which followed in July of that year, the Co-operative shop managers were undoubtedly among the worst paid workers in the community, having regard to the qualifications necessary for the efficient performance of their work. It may be remembered, though Mr. Hallsworth does not mention it, that the wage rates were deliberately fixed at a low level, for idealistic reasons, at the inception of the co-operative movement, and were not calculated to attract many workers of high ability. To come to the actual figures, in 1903 the minimum and maximum of the highest-paid class, the grocery managers, in the whole of the area under notice, averaged respectively 30*s.* to 37*s.* a week, and in 1910 these rates had risen but very slightly, the general average for that year being about 35*s.* In response to local agitation, increases were effected in most districts between 1910 and 1914, so that by August, 1914, the average had risen to about 40*s.* This was again increased during the war by allowances in the form of bonus, though not in proportion to the rise in the cost of living, and the settlement of 1919 brought about a substantial improvement in the lower scales. An enquiry made for the purposes of the 1919 Conference and embracing 2,660 shops, showed that 1,940, or 73 per cent., of the managers received less than 75*s.* a week. These cases were distributed, by the terms of the agreement, among the higher wage groups, with the result that the general average wage was raised from 69*s.* 9*d.* to 82*s.* 7*d.*, the largest class of increases being those showing increments of from 15*s.* to 20*s.* weekly. The author's statement that association of the shop-managers with their co-workers of the rank and file marked the beginning of progress, seems a rather naive tribute to the merits of the fundamental principle on which these Societies were under-

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

stood to be based, but of which the full significance seems scarcely to have been realised by either the employing or the employed.

The series of Tracts on Economic Subjects, by various members of the University, which is being issued from the Oxford Press, is designed to help people who, perplexed with new problems, find they need to know something of political economy for their right understanding. So far, fourteen tracts have appeared, and the plan is to treat each aspect or subdivision of a subject in a detached paper of four pages. The first two deal with Economics in an explanatory and introductory manner, and the subsequent numbers with "The Industrial Conflict," "Why Nations Trade," "Real Wealth "and Real Wages," "Capital, Capitalism and Capitalists" (two), "The Present Position of Agriculture," "Bureaucracy and Business," "Profiteering," "Municipal Trading," "Movement of Prices," "Co-operation and Agriculture." The value of the separate tracts varies with the method chosen by the particular author. Some writers succeed in imparting a good deal of bedrock fact in the small space allowed. On the other hand, in some of the papers, especially those dealing with the more difficult and controversial subjects, the aim seems to be rather to form the reader's opinion for him than to provide the materials from which he may arrive at one for himself. The authors, as a whole, have treated their public very tenderly, giving the necessary information in its simplest form, with ample explanation, and keeping figures as much as possible out of sight. This is, no doubt, in keeping with the avowedly introductory character of the series, but some indication of the works which might be utilized by those whom it incites to further study would, we think, add to its value.

The Republic of Czechoslovakia has recently organized the official statistics of the Republic, by a law dated January 28, 1919, which has now been ratified. Under this law a Council of Statistics for the State has been formed, whose duties are of a consultative and advisory nature, and also a State Statistical Office, with executive powers, and both these bodies are subordinate to the President of the Council of Ministers. Section 3 of the law deals with the constitution and functions of the Statistical Council and Statistical Office. Under Section 4, all existing statistical and administrative bodies are obliged to co-operate with the Statistical Office and to follow its instructions in regard to any statistical enquiry that may be made. Sections 5 and 6 deal with the obligations of individuals, corporate bodies and companies generally trading for profit, to supply full and truthful answers to all and any

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

questions that may be asked them by the competent statistical authorities. Heavy fines and imprisonment can be inflicted on offenders, and the office can investigate, at the cost of an offender, the truth or otherwise of his replies. Sections 7 and 8 deal with the safe-guarding of the individual in regard to the confidential information that may have been obtained as regards his private affairs, and the authorities considerately forbid the communication of such information to other departments, especially the fiscal authorities. Under the new law, the former Bureau of Statistics of the Kingdom of Bohemia has been taken over by the new government, with its *personnel* and equipment, and is now charged with carrying out the duties of the new State Statistical Office.

The University of Liverpool has issued an appeal for funds to enable it to develop its work. New buildings are urgently needed if the facilities for higher education in the area it serves are to keep pace with the demand. This demand has latterly received an immense impetus through the improved education of the secondary schools, which have succeeded in implanting a desire for more advanced knowledge in their ablest pupils, so that the number who seek admission to the universities is increasing each year. In his memorandum, Mr. A. F. Shepherd, the director of the appeal, lays stress on these facts, and states that the number of undergraduates in Liverpool University increased from 1,522 in 1919 to 2,455 in 1920. Many more have been refused admission this year for want of accommodation, and the space available is said to be entirely inadequate even for the present number of students. In a manifesto signed by Lord Derby, Professor Adami and Mr. Hugh Rathbone, the Chancellor, Vice-Chancellor and President of Council respectively, it is suggested that a gift to the University would be a fitting memorial to those who fell in the War. In view of the work already accomplished by many of the Departments and, above all, by the School of Tropical Medicine, there is no doubt that to further the development of Liverpool University is to render a real service to the nation and to science. This, the first public appeal made by any British University, will, it may be hoped, meet with a generous response.

In response to the special notice printed in the March JOURNAL, the Council have received a number of applications from statisticians desiring to obtain appointments, and have accordingly opened a register of names and qualifications. They are, therefore, in a position to furnish this information to those who have statistical appointments to offer, and will be glad to receive notice of such appointments.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

OBITUARY.

Sir John Glover.

THE Society has lost one of its oldest members by the death of Sir John Glover in March last. He was probably senior in age to any other member, having passed his 90th birthday in September last.

Since 1860 Sir John had been a Fellow of the Society, and served at intervals in the Council from 1869 to 1909, when he finally retired from that position. He was a Vice-President in 1885, 1887 and in 1903.

Having entered the shipbroking business at an early age, he became Chairman of Lloyds Registry, and also of the Mercantile Steamship Company. In connection with his long experience in shipping matters and records, Sir John Glover contributed to the Society a series of no less than five Papers on Tonnage Statistics at intervals of ten years, thus extending over fifty years in all, the last one being read to the Society in 1902. This must indeed be a record of successive work which was quite inadequately recognized by the award in 1893 of the Guy Medal in silver on the completion of his fourth decennial review of shipping.

Those who served with him on the Council will readily bear witness to the strong sense and good humour with which he discussed the Council's business, and his presence was equally welcome at the Statistical Club Dinner after the monthly meetings.

Sir Henry Burdett.

The Society has to deplore the loss by death on April 29 last of Sir Henry Burdett, K.C.B., K.C.V.O., who was elected a Fellow of the Society in 1880.

Born in 1847, Sir Henry, after a short service in a Birmingham bank, entered as a medical student. He abandoned the medical profession at the age of 21, when he was appointed Secretary to the Queen's Hospital, Birmingham. Six years later (in 1874) he was appointed Secretary to the Seamen's Hospital Society, a post which he resigned in 1880 to become Secretary to the Share and Loan Department of the Stock Exchange, which office he held for seventeen years. Although he attained a high reputation in this branch of work—of which the status of *Burdett's Official Intelligence of British*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

and Foreign Securities is sufficient evidence—it is in connection with hospital services that his name will be best remembered. His *magnum opus* was *Hospitals and Asylums of the World* (4 vols.), but his annual *Hospitals and Charities* has long been an indispensable book of reference to philanthropists. He was particularly interested in cottage hospitals, a new edition of his *Cottage Hospitals: Their Construction and Management*, being in preparation at the time of his death. He was also the founder of *The Hospital* with its supplement, *The Nursing Mirror*.

Sir Henry did much to help hospitals financially, being one of the earliest workers in connection with the Hospital Sunday Fund, and later assisted in the formation of the King's Hospital Fund and the League of Mercy. For his services in connection with hospitals he was made K.C.B. in 1897 and K.C.V.O. in 1908.

Sir Henry read two papers before the Society, the first (1882) being entitled "The Relative Mortality after Amputations, of Large and Small Hospitals, and the Influence of the Antiseptic (Listerian) System upon such Mortality," and the second (1898), "Old Age Pensions." Both papers evoked discussions of a somewhat acrimonious character. The former, which brought to light the unfavourable results of amputations in large hospitals as compared with those observed in cottage hospitals, was perhaps not of a character suitable for discussion at a meeting where the medical profession was not represented. The second paper was born out of time, and would doubtless have been more favourably received a few years later.

Sir Henry served on the Council of the Society from 1897–1900, and was a frequent donor to the Society's Library.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

STATISTICAL AND ECONOMIC ARTICLES IN RECENT PERIODICALS.

UNITED KINGDOM—

Bankers' Magazine—

April, 1920—A New gold currency for Germany: *Acheson Shortes* (*F. R.*). Thrift. Economic conditions of Europe.

May, 1920—Seven per cent. The Budget. The Fallacy of high wages: *Morris* (*Frank*). The Shanghai Tael and the currency of Shanghai.

June, 1920—Progress of Banking in Great Britain and Ireland during 1919. The Exchequer *v.* the Trader. The Foreign Exchange Conferences: *Lawson* (*W. R.*).

Comparative Legislation and International Law, Journal. June, 1920—Review of Legislation, 1918. (Various Countries.)

Economic Journal. March, 1920—Adam Smith on Public Debts: *Nicholson* (*Prof. J. S.*). British exports and the barometer: *Beveridge* (*Sir W.*). The Disintegration of the Austro-Hungarian currency: *Schlesinger* (*Karl*). Further observations on the World's Monetary Problem: *Cassel* (*Prof. G.*). Classical principles and modern views of Labour: *Wootton* (*Barbara*). The Public Finances of Ireland: *Oldham* (*Prof. C. H.*).

Faculty of Actuaries, Transactions. No. 76, 1920—The Selection of lives: *Orr* (*Lewis P.*).

Financial Review of Reviews. June, 1920—Economic conditions in the Central Americas: *Martin* (*Percy F.*). Profit-Sharing and Co-Partnership: *Jordan* (*Herbert W.*). Income and profits under the Budget: *Burns, W. S.* (*John*). Gold, currency and inflation: *Quail* (*Jesse*).

Institute of Actuaries, Journal. April, 1920—A New method of valuing policies in groups: *Trachtenberg* (*H. L.*).

Ministry of Agriculture, Journal. March, 1920—Farming of the United Kingdom in peace and in war: The plough policy and its results: *Middleton* (*Sir Thomas*). Agricultural housing and rent of cottages: *Astor* (*Lord*).

Surveyors' Institution, Transactions—

April, 1920—Some points of an Agricultural Policy: *Fisher* (*Charles B.*).

May, 1920—Rent problems: *Smith* (*Sidney A.*).

Royal Philosophical Society of Glasgow, Proceedings. 1917–18—The adjustment of War expenditure between taxes and loans: *Scott* (*Prof. W. R.*). The Sugar industry after the War: *Heriot* (*T. H. P.*). The Textile industry after the War: *Watson* (*William*). The need for revision of the present basis of Local Taxation: *Duncan* (*Ebenezer*). Metallurgy and the War: *Desch* (*Cecil H.*).

United Empire. May, 1920—The organisation of migration and settlement within the Empire: *Turnor* (*Christopher*).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

INDIA—

Wealth of India—

December, 1919—Fiscal freedom for India: *St. Nihal Singh.* The Economic Crisis: Suggested Commission: *Paish (Sir George).* Indian Trade: *Spalding (F. W.).*

March, 1920—The Indian Economic Conference: *Sundara Reddi (E. V.).* The Currency Report: *Pande (S. A.).* Indian trade and industry: *Chelmsford (Lord).* Currency and exchange: *Hailey (M. W.).*

SOUTH AFRICA—

Department of Agriculture, Journal. April, 1920. *No.* 1.—Progress of Agriculture in South Africa.

UNITED STATES—

American Academy of Political and Social Science, Annals—

March, 1920—A series of articles on Bonds and the Bond Market, by various authors.

May, 1920—A series of articles on Prices, by various authors. I. Present Day Prices. II. Price Factors in Typical Commodities. III. Wages, Profits and Excess Profit Taxes. IV. Production. V. Co-operation. VI. International Finance and Trade in their Relation to Prices. VII. Inflation and Prices. VIII. The World's Monetary Problems.

American Economic Review—

March, 1920—The Nature of our economic problem: *Gardner (Henry B.).* American experience with workmen's compensation: *Fisher (Willard C.).* A New York experiment in business co-operation: *Clapp (Edwin J.).* Call rates and the Federal Reserve Board: *Magee (James D.).* The progress of State Income Tax since 1911: *Lutz (Harley L.).*

Supplement. March, 1920—Papers and Proceedings of the Thirty-second Annual General Meeting. Excess Profits Taxation: *Haig (Robert M.).* Germany's Reparation Payments: *Taussig (F. W.).* International supervision over foreign investments: *Adams (H. C.).* Employees' representation in management of Industry: *Meeker (Royal).* Prices and re-construction: *Mitchell (Wesley C.).* Banking Policy and the price situation: *Moulton (H. G.).*

American Journal of Sociology. March, 1920—Sociology in Normal Schools: The report of a committee: *Clow (F. R.).*

American Statistical Association. March, 1920—The essentials of a good census: *Hill (Joseph A.).* The Mortality of Race Stocks in Pennsylvania and New York: *Dublin (Louis I.)* and *Baker (Gladden W.).* Statistical standards in business research: *Secrist (Horace).* Standardization of the construction of statistical tables: *Day (Edmund E.).* A continued census of production: a round table discussion. Report of the joint Census Advisory Committee.

Journal of Political Economy—

March, 1920—Will agricultural prices fall? *Nourse (E. G.).* The causes of and antidote for industrial unrest: *Drury (Horace B.).* Proprietors' salaries: *Paton (W. A.).*

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

UNITED STATES—*Contd.*

Journal of Political Economy—Contd.

April, 1920—Railroad valuation as a working tool: *Clark* (*J. M.*). An Appraisal of Carver's Economics: *Moulton* (*H. G.*). Economic implications in the psychological doctrine of interest: *Kitson* (*Harry Dexter*).

May, 1920—Research in Collegiate Schools of Business: *Secrist* (*Horace*). Proposals for the taxation of wealth in Great Britain: *Comstock* (*Alzada*).

Political Science Quarterly. *March*, 1920—Peasant co-operatives in Rumania: *Knight* (*M. M.*). The Basis of railroad capitalization: *Bonbright* (*James C.*). Rural socialization: *Sims* (*Newell L.*).

Quarterly Journal of Economics—

February, 1920—The Present condition of Economic History: *Gras* (*N. S. B.*). The Cost of living for working women: A criticism of current theories: *Douglas* (*Dorothy W.*). Railroad Valuation by the Interstate Commerce Commission. II. *Vanderblue* (*Homer B.*). What is Rural Economics: *Ise* (*John*). The scope and nature of the Labor turnover problem: *Slichter* (*Sumner H.*). The separation of railway costs between freight and passengers: *Parmelee* (*Julius H.*).

May, 1920—Nitrogen: Its fixation, its uses in peace and war: *Jones* (*Grinnell*). Prices and Currency in Japan: *Clark* (*Victor S.*). Factors determining the interest rate: *Davies* (*George R.*). The German capital levy tax: *Jastrow* (*J.*). Is competition in industry ruinous? *Jones* (*Eliot*).

Review of Economic Statistics—

January, 1920.—General business conditions. I. The Index. II. The Three Groups of Series. III. The Individual Series. World currency expansion during the War and in 1919: *Davis* (*Joseph S.*). The Basis for credit expansion under the Federal Reserve system: *Persons* (*Warren M.*).

February, 1920—Monthly Forecast of General Business Conditions. A Non-technical explanation of the Index of General Business Conditions: *Persons* (*Warren M.*). Appendix of Current Statistics.

March, 1920—Monthly Survey of General Business Conditions. Review of the First Quarter of the Year 1920. Appendix of Current Statistics

April (*Supplement*), 1920—I. Our Balance of International Payments in 1919. II. Conclusion: The Future of our Foreign Trade.

EGYPT—

L'Egypte Contemporaine—

February, 1920—L'avenir économique de la France: *Lescure* (*J.*).

April, 1920—Co-operative Consumers' Societies: *Baxter* (*J.*).

FRANCE—

Bulletin de Statistique et de Législation Comparée. *December*, 1919—La production des alcools en 1918 et 1917. Le Commerce extérieur de la France pendant le troisième trimestre de 1919.

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

FRANCE—*Contd.*

Journal des Economistes—

March, 1920—La Grève des cheminots: *Guyot* (*Yves*). Questions monétaires: *Raffalovich* (*Arthur*). La Loi belge sur l'imposition des bénéfices de guerre: *Dewavrin* (*Maurice*). L'Expropriation de la grande propriété rurale et la Question agraire en Roumanie: *Mantou* (*Georges*). Inefficacité des lois protégeant les consommateurs en Angleterre: *Raffalovich* (*Arthur*). Le Programme syndicaliste et la Révolution économique: *Jacq* (*Fernando*).

April, 1920—La Conciliation et l'Arbitrage: *Guyot* (*Yves*). Un critique anglais du Traité de Versailles: *Raffalovich* (*Arthur*).

May, 1920—Les Nouveaux Impôts: *Yves-Guyot*. Un chapitre d'histoire monétaire en Angleterre: *Raffalovich* (*Arthur*). La Situation économique et financière du Japon en 1918–19: *Nouvion* (*Georges de*).

Journal de la Société de Statistique de Paris. *April*, 1920—Nos richesses nationales latentes en carburants: *Cadoux* (*M. Gaston*). L'industrie minière et métallurgique au Canada: *Dewavrin* (*M. Maurice*).

La Réforme Sociale—

March, 1920—La Crise du logement: *Dufourmantelle* (*M. Maurice*).

April, 1920—La Fiscalité française depuis la Guerre: *Mathorez* (*M. J.*). Le Chapitre des illusions en matière sociale: *Hubert-Valleroux* (*M.*).

Revue d'Economie Politique. *January–February*, 1920—Le salaire minimum dans l'agriculture de l'Angleterre du Pays de Galles: *Acland*. Esquisse d'une conception et d'une ordonnance scientifiques de l'économie: *Bodin* (*C.*). Le "Bullion Report" anglais de 1810: *Mawas* (*A.*). La "Socialisation" des mines en Allemagne: *Le Normand*.

ITALY—

Giornale degli Economisti e Rivista di Statistica—

April, 1920—Saggio di una teoria statistica sulla frequenza delle malattie: *Minetola* (*Silvio*). Sulla composizione numerica della famiglie: *Mortara* (*G.*).

May, 1920—Sull'Assicurazione obbligatoria contro l'invalidita e la vecchiaia: *Bagni* (*Tullio*). Osservazioni sopra le presenti difficoltà monetarie: *del Vecchio* (*Gustavo*).

Giornale di Matematica Finanziaria. *December*, 1919—La caratteristiche del prestito forzoso come forma di riscossione d'un imposta patrimoniale: *Cabiati* (*A.*). Sull' imposta patrimoniale con il prestito forzoso: *Insolera* (*F.*).

La Riforma Sociale—

March–April, 1920—Industrie naturali ed economia nazionale: *Garino-Canina* (*Attilio*). La Questione sociale al tempo dei comuni e ai giorni nostri: *Carano-Donvito* (*Giovanni*). Il Nuovo ordinamento dei Tributi e la proprieta fondiaria: *Serpieri* (*A.*). L'Espropriazione delle terre incolte e mal coltivate: *Crimi* (*Gaetano Navarra*).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

ITALY—*Contd.*

La Riforma Sociale—Contd.

May–June, 1920—Il bilancio dello stato pel 1917–18 e 1919–20: *Curato* (*Giulio*). Riflessioni statistiche sul commercio annonario italiano: *Porri* (*Vincenzo*). L'Occupazione delle terre "Incolte" da parte delle associazioni di agricoltori: *Rocca* (*G.*).

SPAIN—

Revista Nacional de Economía. No. 22, 1920—El trabajo y la criminalidad en España: *Saldaña* (*Quintiliano*). El problema de la vivienda: *Barthe* (*Andrés*).

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

112529

LIST OF ADDITIONS TO THE LIBRARY.

Since the March issue the Society has received the publications enumerated below.

Note.—Periodical publications are not included in this list; they will be acknowledged at the end of the volume.

I. OFFICIAL PUBLICATIONS.

(a) United Kingdom and its several Divisions.

United Kingdom—

British Empire Statistical Conference, 1920. Report and Resolutions adopted by the First Conference of Government Officers engaged in dealing with Statistics in the British Empire, held at the Board of Trade on January 20-February 26, 1920. [Cmd. 648.] 68 pp., 8vo. London, 1920. (The Board of Trade.)

Board of Trade. Statistical Abstract for the Several British Oversea Dominions and Protectorates in each year from 1903 to 1917. Fifty-Fourth Number. [Cmd. 66.] 485 pp., 8vo. London, 1920. (*Id.*)

Foreign Office. Handbooks prepared under the Historical Section. 1. Austria-Hungary, Foreign Policy of Austria-Hungary. 2. Bohemia and Moravia. 3. Slovakia. 4. Austrian Silesia. 5. Bukovina. 6. Transylvania and the Banat. 7. Hungarian Ruthenia. 8. Croatia-Slavonia and Fiume. 9. Carniola, Carinthia and Styria. 10. The Austrian Littoral 11. Dalmatia. 12. Bosnia and Herzegovina 13. The Slovenes. 14. The Jugo-Slav Movement. 15. History of the Eastern Question. 16. Turkey in Europe. 17. Albania. 18. Greece with the Cyclades and Northern Sporades. 19. Montenegro. 20. Serbia. 21. Macedonia. 22. Bulgaria. 23. Rumania. 25. Holland. 26. Belgium. 27. Luxemburg and Limburg. 28. Question of the Scheldt. 29. Neutrality of Belgium. 30. Alsace-Lorraine. 31. Lorraine and Saar Minefields. 33. Trentino and Alto Adige. 34. Spain. 35. Schleswig-Holstein. 36. Spitsbergen. 37. Bavarian Palatinate. 38. Rhenish Prussia. 39. East and West Prussia. 40. Upper Silesia. 41. The Kiel Canal and Heligoland. 42. German Colonization. 43. Poland, General Sketch of History, 1569–1815. 44. Russian Poland, Lithunia and White Russia. 45. Prussian Poland. 46. Austrian Poland. 47. Finland. 48. The Aland Islands. 50. Courland, Livonia and Esthonia. 51. Bessarabia. 52. The Ukraine. 53. The Don and Volga Basins. 54. Caucasia. 55. Eastern Siberia. 56. Sakhalin.

Ministry of Agriculture and Fisheries. Fishery Investigations. Series II. Sea Fisheries. Volume IV, No. 2. 32 pp., fol. London, 1920. (The Ministry.)

—— Fisheries in the Great War, being the Report on Sea Fisheries, 1915, 1916, 1917 and 1918. Parts I–II. [Cmd. 585.] xxxix + 194 pp., 8vo. London, 1920. (Ministry of Agriculture.)

Royal Commission on the Income Tax. Index to the Seven Instalments of the Minutes of Evidence and Appendices. [Cmd. 288–8.] 101 pp., fol. London, 1920. (The Commission.)

—— Report of the Royal Commission. [Cmd. 615.] 8 + 186 pp., fol. London, 1920. (*Id.*)

(b) India and Dominions.

India—

Calcutta University Commission. 1917–19. Report. Volume xiii. Evidence and Documents. Statistics relating to Colleges. xii + 221 pp., fol. Calcutta, 1920. (The Government.)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(b) **India and Dominions**—*Contd.*

Canada—

Department of the Interior. Map of the Dominion of Canada indicating Natural Resources, Transportation and Trade Routes. (The Department.)

Union of South Africa—

The Department of Agriculture. Bulletin No. 2. of 1920. Report on Cold Storage Conditions for Export Fruit at Capetown. (By *I. B. Pole Evans.*) 9 pp., 8vo. Pretoria. (The Department.)

—— Bulletin No. 2 of 1919. Pigs and Piggeries. Part 1. Breeding, Feeding and Management. (By *W. A. K. Morkel.*) Part 2. The Design and Construction of Piggeries. (By *W. S. H. Cleghorne.*) 55 pp., 8vo. Pretoria, 1919. (*Id.*)

—— Bulletin No. 7 of 1919. Breeding Experiments with North African and South African Ostriches. VI. Degeneration. (By *Professor J. E. Duerden.*) 56 pp., 8vo. Pretoria, 1919. (*Id.*)

—— Bulletin No. 8 of 1919. Fourth Report on Cattle Feeding Experiments. 28 pp., 8vo. Pretoria, 1919. (*Id.*)

(c) **Foreign Countries.**

France—

Alsace-Lorraine.—

Office de Statistique. Compte-rendus No. 1. Statistique Agricole, année 1919. 21 pp., 8vo. Strasbourg, 1920. (Office de Statistique.)

—— Compte-rendus No. 2. Mouvement naturel de la population en Alsace et en Lorraine dans les années 1913 à 1918. xvii + 56 pp., 8vo. Strasbourg, 1920. (*Id.*)

—— Compte-rendus Statistiques Fascicule No. 3. Résultats statistiques du Recensement du Bétail effectué le 2 Décembre 1919. 12 pp. (*Id.*)

Germany—

Krieg und Wirtschaft VIII. (Archiv für Sozialwissenschaft und Sozialpolitik.) 295–475 pp., 8vo. Tübingen, 1919. (R. Economic Society.)

United States—

Department of Labor. Children's Bureau. "Save the Youngest." (Seven charts on Maternal and Infant Mortality, with explanatory comment.) Children's Year Follow-Up Series No. 2. Bureau Publication No. 61. 15 pp., 8vo. Washington. (The Bureau.)

—— Children's Year Follow-Up Series No. 3. Bureau Publication No. 64. "Every Child in School." 15 pp., 8vo. Washington, 1919. (*Id.*)

—— Minimum Standards for Child Welfare. Conference Series No. 2 Bureau Publication No. 62. 15 pp., 8vo. Washington, 1919. (*Id.*)

—— Maternity Benefit Systems in Certain Foreign Countries. (By *Henry J. Harris.*) Legal Series No. 3. Bureau Publication No. 57. 206 pp., 8vo. Washington, 1919. (*Id.*)

—— Bulletin of the U.S. Bureau of Labor Statistics, No. 260. Wages and Hours of Labor Series.) "Wages and Hours of Labor in the Boot and Shoe Industry 1907 to 1918." 135 pp., 8vo. Washington, 1919. (*Id.*)

—— Bulletin of the U.S. Bureau of Labour Statistics. No. 251. (Industrial Accidents and Hygiene Series). "Preventable Death in Cotton Manufacturing Industry." (By *Arthur Reed Perry, M.D.*) 534 pp., 8vo. Washington, 1919. (*Id.*)

New York State.

Department of Labor. Bureau of Statistics and Information. Special Bulletin. No. 97. January, 1920. (Court Decisions on Workmen's Compensation Law, June, 1918–December, 1919. Constitutionality and Coverage.) 278 pp., 8vo. Albany, 1920. (The Bureau.)

State Industrial Commission. Proceedings of the Fourth Industrial Safety Congress of New York State. 242 pp., 8vo. Syracuse, N.Y. December, 1919. (The Commission.)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

(c) Foreign Countries—*Contd.*

United States *Contd.*—

Ohio. Industrial Commission of Ohio, Bulletin. Department of Investigation and Statistics, Report No. 38. (Vol. V, No. 4.) Union Scale of Wages and Hours of Labour in Ohio on May 15, 1919. 35 pp. Columbus, 1920. (The Commission.)

(d) International.

Bulletin International des Douanes. Current Numbers. May 1 and 19, 1920. (Board of Trade.)

H. AUTHORS AND MISCELLANEOUS.

Acworth (*W. M.*). Historical Sketch of State Railway Ownership. xiv + 104 pp., 8vo. London: John Murray, 1920. (The Publishers.)

Bedwell (*C. E. A.*). The Present Value of Comparative Jurisprudence. (Reprinted from the Yale Law Journal, March, 1920.) Pp. 509–515, 8vo. (Society of Comparative Legislation.

Bowley (*A. L.*). The Change in the Distribution of the National Income, 1880–1913. 27 pp., 8vo. Oxford: Clarendon Press, 1920. (The Publishers.)

Carnegie Endowment for International Peace—

Judicial Settlement of Controversies between States in the American Union. An Analysis of Cases Decided in the Supreme Court of the United States. By *James Brown Scott.* xiii + 548 pp., 8vo. New York: Oxford University Press, 1919. (The Publishers.)

War and Peace. By *William Jay.* xiv + 69 pp., 8vo. New York: Oxford University Press, 1919. (*Id.*)

Preliminary Economic Studies of the War, No. 15. Effects of the War on Money, Credit and Banking in France and the United States. By *B. M. Anderson, Jr.* vii + 227 pp., 8vo. New York: Oxford University Press. 1919. (*Id.*)

Clark (*John J.*). The Housing Problem: Its Growth, Legislation, and Procedure. xix + 544 + 8 pp., 8vo. London: Pitmans, 1920. (The Publishers.)

Commons (*John R.*). Industrial Goodwill. 213 pp., 8vo. Hill Publishing Co., 1919. (R. Economic Society.)

Cotton (*C. W. E.*). Handbook of Commercial Information for India. 8 + 383 pp., 8vo. Calcutta, 1919. (Indian Trade Commissioner.)

Cox (*Harold*). Economic Liberty. vii + 263 pp., 8vo. Longmans Green and Co., 1920. (The Publishers.)

Cunnison (*James*). Economics. xv + 168 pp., 8vo. Methuen and Co. (The Publishers.)

Dawson (*William Harbutt*). Problems of the Peace. 365 pp., 8vo. Allen and Unwin. (R. Economic Society.)

Dublin (*Louis*) and *Kopf* (*Edwin*). Pamphlet. Some considerations in Vital Statistics Education. (Reprinted from the Quarterly Publications of the American Statistical Association, September, 1919.) 11 pp., 8vo. New York 1919. (Metropolitan Life Insurance Co.)

Fay (*C. R.*)—

Co-operation at Home and Abroad. xvi + 447 pp., 8vo. P. S. King, 1920. Second edition (The Publishers.)

Life and Labour in the Nineteenth Century. viii + 318 pp., 8vo. Cambridge University Press, 1920. (*Id.*)

Federation of British Industries. (Intelligence Department.) Financial Review of 1919, including Fluctuations in the rates of Foreign Exchange and the Prices of the raw materials of industry. By *J. S. M. Ward* and *N. E. Crump.* 28 pp., 8vo. London. (The Federation.)

Fisher (*Irving*). Stabilizing the Dollar. xlix + 305 pp., 8vo. Macmillans, 1920. (The Publishers).

Ghambashidze (*D.*). Mineral Resources of Georgia and Caucasia. With a Chapter on the Manganese Industry of Georgia. 182 pp. George Allen and Unwin, 1919 (The Author.)

Gini (*Corrado*). L'Ammontare e la Composizione della Ricchezza delle Nazioni. 709 pp., 8vo. Torino, 1914. (Bought.)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

II. Authors and Miscellaneous—*Contd.*

Hall (*Hubert*). Antiquities and Curiosities of the Exchequer. xiii + 230 pp. London: Elliot Stock, 1891. (Mr. A. W. W. King.)

Hobson, (*S. G.*). National Guilds and the State. 406 pp., 8vo. Messrs. Bell, 1920. (The Publishers.)

Hodges (*Frank*). Nationalisation of the Mines. xii + 170 pp., 8vo. Messrs. Leonard Parsons, 1920. (The Publishers.)

Jenkins (*D. T.*). The Sea Fisheries. xxi + 299 pp., 8vo. Constable 1920. (The Publishers.)

Jaba (*Captain John*). Politico-Economic Review of Bessarabia. 32 pp., 8vo. June, 1919. (Légation de Roumanie à Londres.)

Korea, Administrative Reforms in. (Articles Reprinted from the "Seoul Press"). Two copies. 74 pp., 8vo. "Seoul Press," Chosen, 1919. (The Editor.)

Koren (*John*). The History of Statistics. Their Development and Progress in Many Countries. xii + 773 pp., 8vo. Printed for the American Statistical Association by Macmillans, New York, 1918. (American Statistical Association.)

Loria (*Achille*). Le Peripezie Monetarie della Guerra. (Biblioteca di Scienze Economiche, No. 4.) 159 pp., 8vo. Milano: Fratelli Treves. (The Publishers.)

March (*Lucien*). Le Coût de la Vie et les facteurs de la Cherté. Extrait du Bulletin de la Société Scientifique d'Hygiène Alimentaire. No. 2, 1920, 32 pp., 8vo. (The Author.)

National Birth Rate Commission. Second Report, 1918-20. Problems of Population and Parenthood. clxvi + 423 pp., 8vo. Chapman and Hall, 1920. (Dr Marchant.)

Niceforo (*Alfredo*). La Misura della Vita. xii + 515 pp., 8vo. Torino, 1919. (The Author.)

Oxford Tracts on Economic Subjects. 1919-20. Nos. 1-7, with Introduction. Eight pamphlets. Humphrey Milford. (The Publishers.)

Pearl (*Raymond*)—

The Nation's Food. 274 pp., 8vo. Saunders Company, London, 1920. (The Publishers.)

Sterilization of Degenerates and Criminals considered from the standpoint of Genetics. (Reprinted from the *Eugenics Review*, April 1919.) 8 pp., 8vo. (The Author.)

Certain Revolutionary Aspects of Human Mortality Ar[illegible] (Reprinted from the *American Naturalist*, 1920.) pp. 5 + 44, 8vo. (*Id.*)

The Significance of Some General Biologic Principles in Public Healt[illegible] Problems. (Reprinted from the *Journal of the American Medica[illegible] Association*, February, 1920.) 12 pp., 8vo. (*Id.*)

Food Thrift. (Reprinted from the *Annals of the American Academy o[illegible] Political and Social Science*, January, 1920.) 10 pp., 8vo. (*Id.*)

Preliminary Note on the Incidence of Epidemic Influenza Among the Activel[illegible] Tuberculous. Reprinted from *Quarterly Publications of the America[illegible] Statistical Association*, December, 1919.) 5 pp., 8vo. (*Id.*)

A Statistical Discussion of the Relative Efficacy of Different Methods o[illegible] Treating Pneumonia. (Reprinted from the *Archives of Internal Medicine* October, 1919.) 8 pp., 8vo. (*Id.*)

Pearl (*Raymond*), *Gowen* (*John*) and *Miner* (*John*). Studies in Milk Secr[illegible] tion. VII. Transmitting Qualities of Jersey Sires for Milk Yield, Butte[illegible] Fat Percentage and Butter-Fat. (Reprinted from the *Annual Report of t[illegible] Maine Agricultural Experiment Station* for 1919.) 89 + 204 pp., 8vo. (T[illegible] Author.)

Pelivan (*Ion G.*). The Movement and Increase of Populat on in Bessara[illegible] from 1812 to 1918. 22 pp., 8vo. Paris, 1920. (Légation de Roumani[illegible] Londres.)

Popesco (*George*). Freedom of Navigation in International Waterways. T[illegible] Most Suitable Administration. 15 pp., 8vo. (*Id.*)

Ricci (*Umberto*). Protezionisti e Liberisti Italiani. 203 pp., 8vo. G[illegible] Laterza and Figli, Bari, 1920. (The Publishers.)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

II. Authors and Miscellaneous—*Contd.*

Schlesinger (*Dr. Karl*). Theorie der Geld—und Kreditwirtschaft. 176 pp., 8vo. Leipzig, 1914. (R. Economic Society).

Secrist (*Horace*). Statistics in Business. ix + 137 pp., 8vo. McGraw Hill Book Co. 1920. (The Publishers.)

The Statistical and Social Inquiry Society of Ireland. Historical Memoirs with Portraits. (*By S. Shannon Millin.*) 201 + 32 pp., 8vo. Dublin, 1920.

Strakosch (*Henry*). The South African Currency and Exchange Problem. 34 pp., 8vo. Johannesburg, 1920. (The Author.)

Taussig (*F. W.*). Free Trade, the Tariff and Reciprocity. ix + 219 pp., 8vo. Macmillans, 1920. (Publishers.)

Times. Official Index October to December, 1919. 742 pp., 8vo. (*The Times.*)

Torlai (*Prof. Ubaldo.*) La Misura Internazionale. (Reprinted from *R. Academia dei Ragionieri di Bologna*, October 25, 1919.) 32 pp., 8vo. Bologna, 1919. (The Author.)

Totomianz (*Prof. V.*). Armenia Economica. viii + 86 pp., 8vo. Rome, 1919. (R. Economic Society.)

Truchy (*Henri*). Cours d'Économie Politique. Tome premier, xii + 450 pp., 8vo. Paris, 1919. (*Id.*)

Tsouderos (*E. J.*). Le Rèlevement Economique de la Grèce. xvi + 254 pp., 8vo. Paris, 1919. (*Id.*)

Turner (*John R.*). Introduction to Economics. xvi + 641 pp., 8vo. London: George Allen and Unwin. (The Publishers.)

Vinci (*Felice*). L'Esito dei conflitti di lavoro dal punto di vista statistico. Estratto dalla Rivista delle Societa Commerciale, Anno IX. October, 1919. 19 pp., 8vo. Rome. (The Author.)

Withers (*Hartley*). The Case for Capitalism. ix + 255 + 16 pp., 8vo. Eveleigh Nash Co., Ltd., 1920. London. (The Publishers.)

Wolf (*Robert B.*)—

Non-Financial Incentives. (Presented at the Annual Meeting of the American Society of Mechanical Engineers, December, 1918.) 24 pp., 8vo. (The Author.)

The Creative Workman. (An Address delivered before the Technical Association of the Pulp and Paper Industry at the Spring Meeting, at Dayton, Ohio, May, 1918). 13 pp., fol. New York, 1918. (*Id.*)

Modern Industry and the Individual. 12 pp., fol. New York: Shaw Co. (*Id.*)

Individuality in Industry. *Bulletin of the Society to Promote the Science of Management*, August, 1915. 8 pp., 8vo. Pamphlet. (*Id.*)

The Human Relations in Industry. (An Address delivered at the Fourth Annual Meeting of the Associated Industries of Massachusetts, Boston, 1919.) 19 pp., 8vo. (*Id.*)

Securing the Initiative of the Workman. (Reprinted from the *American Economic Review Supplement*, Vol. IX. No. 1. March, 1919. 121 + 13 pp., 8vo. (*Id.*)

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

यह पुस्तक वितरित न की जाय
NOT TO BE ISSUED

सन्दर्भ ग्रन्थ
REFRENCE BOOK

Compiled
1999-2000

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri

CC-0. In Public Domain. Gurukul Kangri Collection, Haridwar

Digitized by Arya Samaj Foundation Chennai and eGangotri